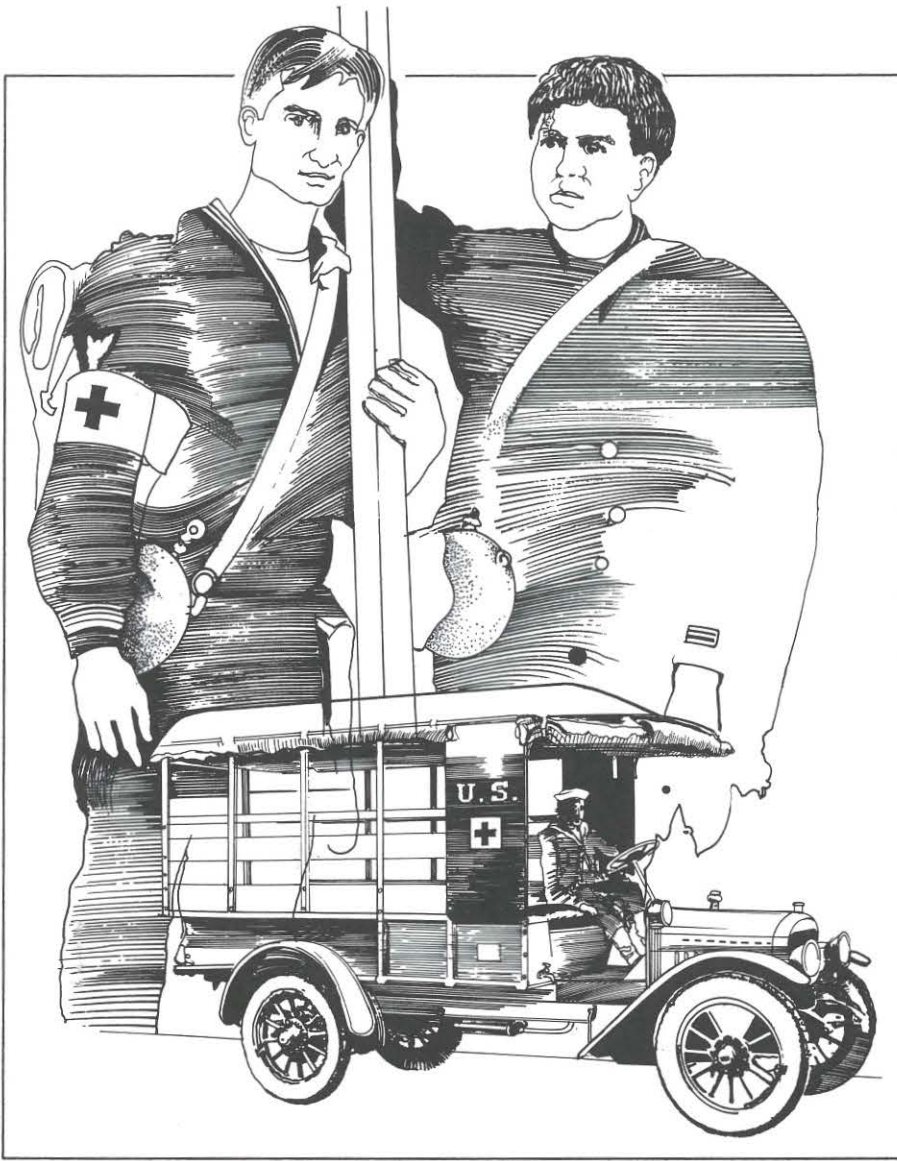


NAVY MEDICINE

July-August 1992



*BUMED
Celebrates its*

*150th
Anniversary*

1842-1992

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COVER: On 31 Aug 1842, Congress passed legislation reorganizing the Navy into five bureaus. As the only original bureau still in existence, BUMED celebrates its 150th birthday. Story on page 10. Cover art by Moses Jackson, NSHS, Bethesda, MD.

Navy Medicine at 150

On 31 Aug 1842, the Congress of the United States passed a Navy appropriations bill creating the Bureau of Medicine and Surgery. The purpose behind the bill was the obvious need for the Navy to be able to maintain a healthy fighting force. One hundred and fifty years later, that need still exists, and as recent world events have already shown, Navy medicine is doing an exceptional job fulfilling it.

During the past 2 years, we have flexed our ability to support the operational forces like never before. Wherever we've been called to serve—whether in the sands of Southwest Asia during Operations Desert Shield/Storm, in Bangladesh, the Philippines, or Cuba during humanitarian assistance missions, or simply in our routine support of fleet operations—Navy medicine has met the challenge, and done what we do best, providing quality care to the people of the Navy and Marine Corps.

What has made me especially proud is that we've been able to do all this while still keeping our commitment to take care of our Navy and Marine Corps families and retirees. The quality of the Navy hospitals and clinics which serve these beneficiaries is higher than it's ever been. In fact, when compared to civilian hospitals and other military treatment facilities, Navy hospitals consistently receive higher scores from independent accreditation agencies. Those scores are unbiased indicators of the tremendous quality and dedication of our Navy medical personnel.

In the years ahead, Navy medicine will undoubtedly be going through some changes; however, I am convinced that these changes will only help to ultimately improve the quality of service, will improve the access our beneficiaries have to health care, and increase our emphasis on preventive health care services. Within our own community, we have rededicated our commitment to providing each person within the Navy Medical Department the professional opportunities for a rewarding and fulfilling career. The plans and initiatives we are launching now will guide Navy medicine safely into the 21st century.

Thank you for the significant contribution each of you makes toward continuing the tradition of excellence which was begun 150 years ago this month.

CHARLIE GOLF ONE.

VADM Donald F. Hagen, MC



MG Mike Myatt, commanding general, 1st Marine Division, presents the Silver Star to HM3 Martin.

Department Rounds

Corpsman Awarded Silver Star

A Navy hospital corpsman assigned to a Marine Corps unit at Camp Pendleton, CA, is the recipient of the highest commendation presented to a medic for heroic actions during Operation Desert Storm. In a ceremony marked with traditional pomp and circumstance, HM3 Anthony Martin, 28, was presented the Silver Star for "conspicuous gallantry and intrepidity in action."

Martin's version of the story is somewhat more modest. "I was just doing my job," said the Milwaukee, WI, native before the presentation. "I look back on the day now and can't believe I did what I did and didn't get hit."

What this shy 6-foot 4-inch, 240-pound corpsman did was deliver the lives of nine marines.



Martin demonstrates how he carried LCPL Musicant from the battlefield.

The tale begins more than a year ago in the Al Wafra oil fields during the battle to liberate Kuwait. According to the citation which accompanies the Silver Star, Company L, 3rd Battalion of the 9th Marines came under an enemy mortar attack 24 Feb 1991 while rounding up surrendering Iraqi troops. Disregarding his own safety, Martin, then an E-3, ran amidst incoming Iraqi rounds, answering cries for help from fellow marines.

"When the mortar rounds hit," Martin remembers, "I heard Musicant and LT Jones yelling for help. I was scared but I had to help them. I wasn't worried about me. If I got hit, I got hit."

LCPL Richard Musicant, 1LT Matthew Jones, and SGT John White were hit by shrapnel from the same mortar round. Of the three, Musicant's

wound, a large jagged hole in his left thigh and a torn artery, was the worst. The young marine, on hand to see his friend receive the commendation, remembered the day.

"It felt like my leg fell off," Musicant said of the incident. "I knew I was going to die. You lose that much blood and you just know that you're going to die. When Tony picked me up, I was really surprised my leg came with me. I thought it had been blown off."

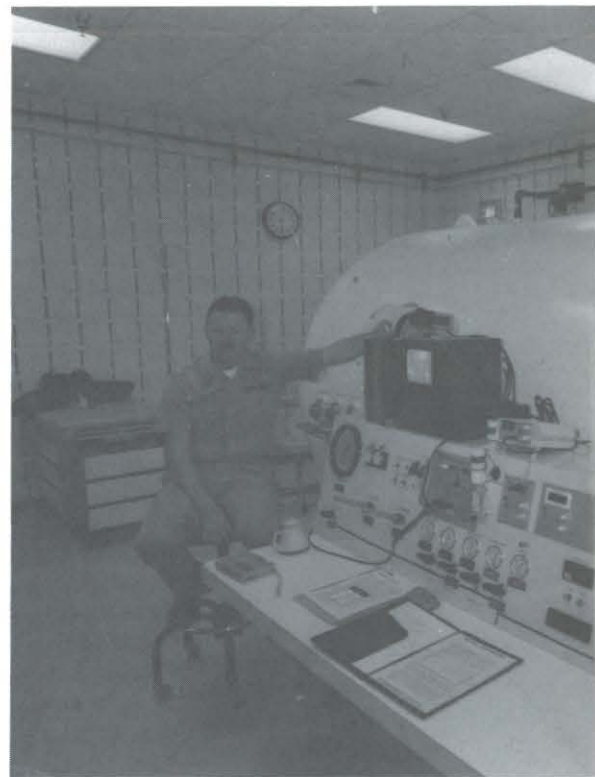
With enemy gunfire raining around him, Martin hauled Musicant's bleeding body, complete with battle gear and a radio, over his shoulder, and bolted for the shelter of an armored vehicle with medical supplies on board. "I just kind of high-stepped across the battlefield," Martin said. "I guess I was pretty busy that day."

MG Mike Myatt, who commanded the 1st Marine Division in Operation Desert Storm, said nine marines are alive today because of Martin. "'Doc' is a term of endearment earned by corpsmen who support marines," Myatt said after pinning the medal on Martin's chest. "Doc Martin, you are a very special part of our corps."

Martin would have preferred a smaller gathering for the presentation (more than a thousand marines were in attendance). According to Myatt, their presence was testimony to the feelings marines have for their corpsmen. □

—Story and photos by Joy Caldwell, Public Affairs Office, Naval Hospital, San Diego, CA 92134.

NAMI Moves Into Next Century



"There is not another recompression chamber like this one in the Navy Medical Department," said HMCM(DV) Wayne Shurtz, Naval Aerospace Medical Institute's (NAMI) senior diving medical technician.

Shurtz is speaking about the new state-of-the-art recompression chamber housed in NAMI's Aviation Physiology Training Unit, Building 3845. "This will bring NAMI into the next century as far as recompression chambers go," continued Shurtz. The recompression chamber (a steel vessel where the internal pressure can be increased in equivalent feet of sea water (FSW) or pounds per square inch (PSI) causing the bubbles to be recompressed), treats decompression sickness (DCS), arterial gas embolism (AGE), carbon monoxide poisoning, and other diseases that benefit by exposure to high concentrations of oxygen under pressure.

Decompression sickness is caused by the formation of bubbles of inert gas, usually nitrogen, within the body's tissues. Rapid lowering of ambient pressure, such as during ascent in flying or diving, leads to an increase in dissolved nitrogen reaching a threshold level and appearing as bubbles.

NAMI had a recompression chamber before, but it was made in the 1930's, lacking many of the modern touches present on the new chamber. "Because of the design of the new chamber, a gurney will fit inside," said Shurtz. "This will enhance the patient's safety; before a gurney would not fit and that patient had to be bodily carried into the old chamber. We didn't have as much control of the patient as we would have liked to ensure safety," he added.

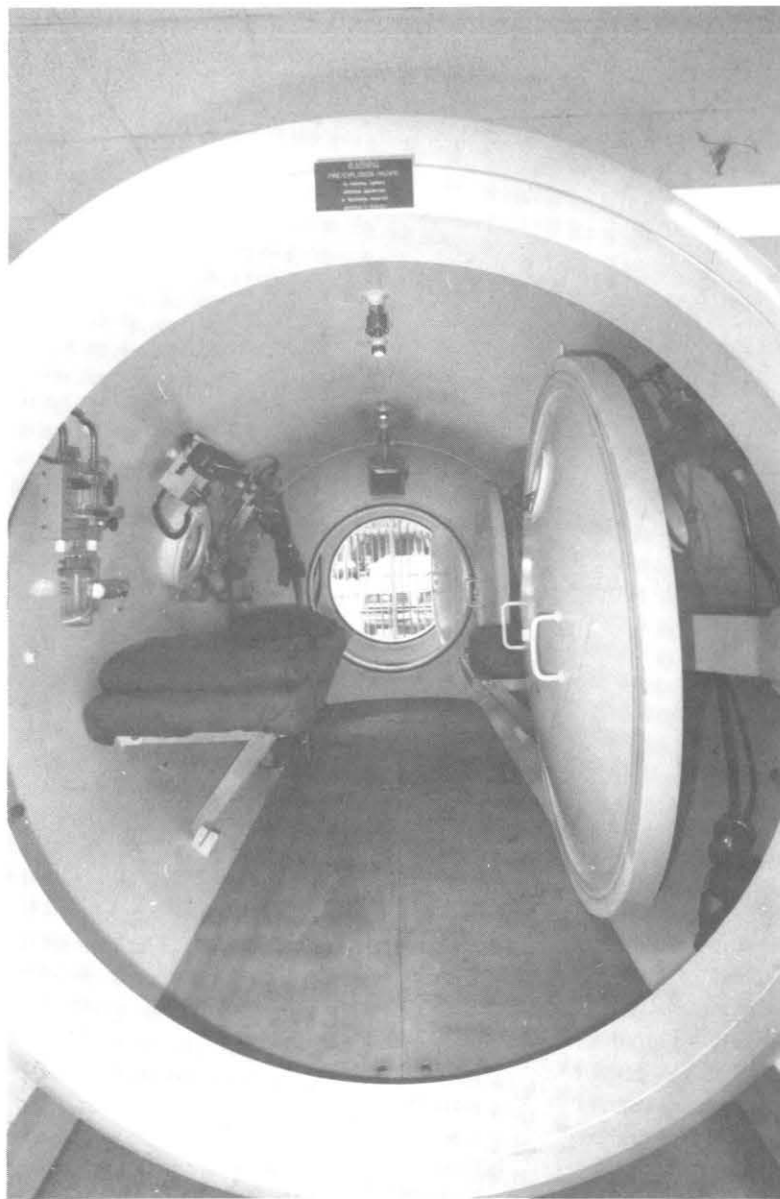
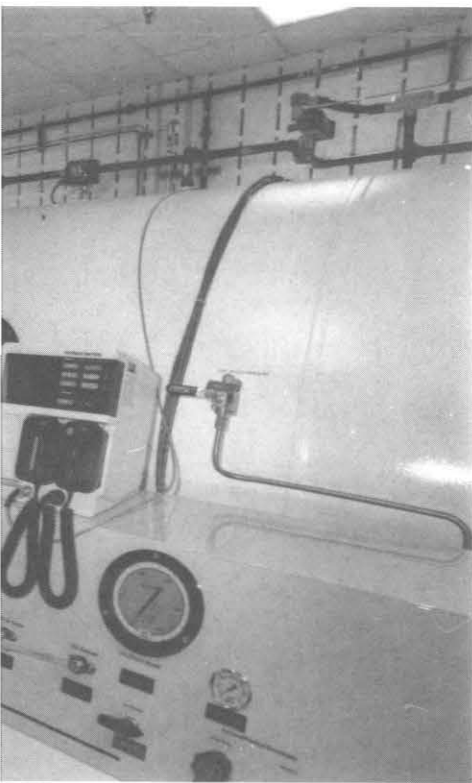
There is an extensive patient monitoring system. Personnel can actually monitor the atmosphere and analyze

gases the patient is breathing and have the capability to monitor and control the temperature inside the chamber. There is also an electrocardiogram (EKG) heart monitoring system.

With a camera inside the chamber, and the small television monitor and video cassette recorder outside the chamber, the patient's treatment can be monitored and recorded. "This would be useful for training purposes and for reviewing and documenting the patient's progress and treatment," said Shurtz.

To make the patient as comfortable as possible while being treated, an entertainment system is also included. A patient can listen to music or watch television during treatment.

Other features include an oxygen hood rather than an oxygen mask. The hood, a clear bubblelike apparatus that fits over the patient's head, connects with the oxygen hose inside the chamber, enabling the patient to



Photos by Jeffrey Bernard

breathe oxygen while wearing the hood. "The hood is for those people who have problems wearing an oxygen mask," said Shurtz. "This also helps if the patient is treated for a long time; a mask can be very uncomfortable."

In case of a fire inside the chamber, the sprinkler system will spray 200 gallons of pressurized water into the vessel.

A state-of-the-art communication system is another added feature. If the main communication system goes out, a self-generated sound-powered phone is available. This is a backup system that will allow the patient to communicate with the medical personnel outside the chamber.

Under the guidance of the Experimental Diving Unit (EDU) in Panama City, FL, NAMI divers and Public Works personnel installed the chamber at considerable savings to the Navy. Independent contract considerations were \$750,000-\$950,000.

Through the combined effort of EDU, Public Works, and NAMI, the new facility cost \$325,000.

NAMI's primary mission regarding the hyperbaric system is to support physiology training, operational flying, and Navy diving operations. However, military members, their dependents, and retirees suffering from DCS and air gas embolism as a result of sport diving may be brought to the recompression chamber for treatment. The recompression chamber is staffed with fully qualified Navy diving medical personnel. The

service is also available to the public on a humanitarian basis in the event of threat to life and limb, but an appropriate evaluation to determine the bona fide nature of the emergency must be accomplished prior to accepting a civilian patient. Additionally, the recompression chamber is geographically situated so that it is the only facility from Mobile, AL, to Panama City, FL, capable of adequately treating decompression sickness or embolism resulting from diving. □

—Story by Claudia Lee, NAMI Public Affairs, Pensacola, FL 32508.

The People Puzzle

CDR Layton Harmon, MSC, USN
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LCDR Pat Denzer, MSC, USN
LT Kevin Magnusson, MSC, USN
HMC(AW) Scott K. Scofield, USN

Have you wondered how those people at BUMED (Bureau of Medicine and Surgery) decide how many people you have in your hospital or clinic? Have you ever wondered why you have certain physician specialists and not others? Maybe you've wondered how the detailers come up with all those choice duty opportunities. Have you ever wondered what those manpower people were saying when they talk billets, authorizations, end-strength, manpower, inventory, promotion opportunity, DOPMA, and a myriad of other terms.

This article will acquaint you with what we refer to as the "People Puzzle." This may be one of the most misunderstood and maligned of all processes within the Navy. Our desire is to inform, answer questions, and enlist your help in making the process work for everyone. The People Puzzle has essentially three parts: manpower, personnel, and distribution.

Manpower

Although the terms "manpower" and "personnel" are often used interchangeably, they are not synonymous. In fact, the terms refer to two systems that are entirely different. In the broadest sense, the manpower system is the template upon which the personnel system operates. As you would expect, the trip from the floors of Congress to the floors of a medical or dental treatment facility is a long and convoluted one.

The manpower system consists of essentially two components: manpower requirements and manpower authorizations (billets).

Requirements

Manpower requirements quantitatively and qualitatively define the most effective and efficient methods of performing assigned missions and functions. Stated differently, given a naval hospital, how many people do we need and what skills should they have in order to get the job done? The answer to that question provides the baseline manpower requirements for the facility.

Manpower requirements are established through a variety of programs and methods. Of particular interest to Navy medicine, though, is the Shore Manpower Requirements Program comprised of the Efficiency Review (ER) process. The ER process is the primary method currently employed by Navy medicine to state our shore-based manpower requirements.

The ER process reviews and assesses work load in terms of the activity's mission, functions, and tasks; objectively reviews and determines the equipment and processes necessary for the activity to efficiently and effectively discharge its mission and tasks; determines the number and defines the skills and mix of military, civilian, and/or contractor manpower resources required based upon measured/validated work load/tasks.

Manpower requirements provide a credible baseline for planning, programming, and budgeting for total force manpower resources to support the operating forces and the shore establishment under wartime and peacetime conditions.

Authorizations

Billets authorized are the link between manpower requirements, Congressional appropriations, and personnel inventory. Billets authorized describe qualitative data necessary for stating manpower in terms meaningful for training, strength planning, and distribution of personnel.

As an example, assume that Naval Hospital "X" has an established requirement for two cardiovascular surgeons and it has decided to program two billets against those requirements. Once programmed, the billets ensure that fully qualified cardiovascular surgeons are ordered to NH "X" (as inventory allows), that strength planners develop plans to maintain an adequate number of cardiovascular surgeons to meet the need, and that training plans are evaluated and modified, as necessary, to produce the correct number of cardiovascular surgeons.

Manpower *requirements* represent the validated need to fully satisfy approved missions and functions for a given work load. Manpower *authorizations* (billets), on the other hand, represent an actual allocation of resources to a requirement. In general, total manpower requirements for the Navy exceed the money available to support that level of manpower. Billets, therefore, are used to identify manpower requirements that are resourced.

Personnel

Once authorized billets have been established, we turn our efforts to filling those authorizations with people. Personnel planning is complex because it occurs on several levels and over several fiscal years with each level complementing and matching the others. The basis for all personnel plans is the strength plan. Other plans include accession, promotion, training, and redesignation (augmentation) plans.

Strength Plans

Strength plans are developed quarterly, submitted to BUPERS (Bureau of Naval Personnel), and become the basis for personnel planning across the entire Navy.

An end-strength number or target is established through the processes described above and reflects the number of individuals authorized to be on active duty at the end of a fiscal year. With this target in hand, each corps' personnel planner identifies current number of people on board, projects losses by grade and specialty, and then develops a plan to reach the end-strength target. The strength plan contains historical information regarding the structure of the corps and anticipated changes (gains and losses) based on correspondence, orders, etc. The basic formula for end-strength is:

$$\text{End-strength} = \text{begin strength} + \text{gains} - \text{losses}$$

The end-strength for one fiscal year becomes the beginning strength for the next. Losses are established by letters of request and orders for resignation, release, or retirement. Gains are identified through evaluation of various accession sources. Programs such as direct procurement, the Armed Forces Health Professions Scholarship Program (AFHPSP), the Nurse Candidate Program (NCP), enlisted commissioning programs, etc., contribute to the gains variable in the end-strength equation.

Accession Plans

Accession programs such as AFHPSP and NCP are long-range plans which look at future accession needs. Each program has its own plan which finds its basis in the future end-strength projections. They provide a steady, reliable source of new accessions each year and form the foundation for our annual recruiting plans.

Recruiting. The end-strength equation is completed by recruiting. Beginning strength has been established, projected losses and programmed gains identified, and we now have a projected end-strength with no recruiting activity. The difference between this projected end-strength and our end-strength target becomes our total recruiting goal. Goals are then established for each specialty within a corps according to need.

Promotion Plans

Promotion plans are developed annually in July/August and are projected for 5 years. The promotion plan is constructed 1½-2 years before execution, e.g., the FY93 promotion plan was developed in July 1991; selections were made during FY92 for promotions which will begin 1 Oct 1992 (FY93). Guidance for promotion planning comes

from Congress, DOD, and Navy and includes guidelines for flowpoint (the average number of years from the ensign date-of-rank to the next grade), promotion opportunity (the percentage opportunity within zone), and authorizations (the numbers allowed within a specific grade).

DOPMA vs. non-DOPMA Control. The Defense Officer Personnel Management Act (DOPMA), effective September 1981, established policies specifically related to Officer Personnel Management. The DOPMA section most related to this article specifically addresses the "control" grades of LCDR, CDR, and CAPT. DOPMA was established to standardize force structure, promotion opportunity, and flowpoint. DOPMA groups within the Medical Department include the Nurse Corps and Medical Service Corps. Control grades are usually "vacancy filled," meaning the number selected for promotion is based on the number of losses to that grade. DOPMA guidelines for flowpoint and opportunity compared to actual flowpoint and opportunity are provided in Table 1 for each Medical Department Corps, fiscal years 92 and 93.

Non-DOPMA communities, of which there are two, the Medical Corps and the Dental Corps, are not constrained in the size of their control grades. DOD guidance directs that these corps shall maintain a "pyramidal" shape, flags at the top and lieutenants at the bottom, and that 6 years time-in-grade shall be the window of eligibility. This results in a flowpoint which is comparable to DOPMA-controlled communities.

Training Plans

Training plans are based on the "needs of the Navy." We've all heard that, but what does it mean? In this case, the needs of the Navy are defined by billets authorized and billet subspecialty codes. Prior to developing any training plan, a "billet run" is obtained which lists all billets for a specific corps defined by subspecialty code. This gives us a picture of what our "needs" are. Next we do a "body run" by subspecialty code. Matching the billet run with the body run helps us identify our training needs. Other considerations made while developing the training plan include personnel currently in training, personnel projected for training, projected gains and losses by specialty for coming years, and other identified requirements. Defined needs are then compared to the number of training slots available, and decisions are made regarding how many people will be selected for training during the coming year.

Redesignation Plans

Each community has a prescribed number of regular officers. By law, the Navy has a limit on total number of regular officers allowed. Redesignation boards are convened twice a year in April and October. Prior to the board, each community reviews the total number of regular officers on active duty and the number of projected regular officer losses. The difference becomes the plan for redesignation.

Distribution

Personnel distribution is an extremely dynamic undertaking. Federal law governs matters such as total number of personnel authorized, service obligations, retirement eligibility, involuntary release from active duty, and compensation. The Chief of Naval Operations authorizes the number of positions available for distribution. As mentioned before, the manpower authorization for each activity is both a quantitative and qualitative expression of its requirements. Billets can be moved from one activity to another as requirements change; however, the total number of billets cannot exceed the Chief of Naval Operations' authorization. Billet changes can only be made by the claimant responsible for the activity.

Filling authorized Medical Department billets, i.e., the distribution process, involves coordination by several people. The BUPERS Medical Department Officer Distribution Branch (PERS-4415) has direct responsibility for all Medical Department officers; however, distribution decisions are often made after consultation with BUMED, the individual activity, and specialty advisors. PERS-4415 does not, however, add, delete, relocate, or change billets. That is a manpower function.

The distribution process is a vacancy driven system. Vacancies are prioritized for fill in accordance with established Surgeon General/Chief of Naval Personnel policies and activity requirements. Current prioritization for fill is:

- Congressionally mandated facilities (staffing levels set by Congress regardless of billet authorization).
- Operational/OCONUS facilities.
- Isolated CONUS facilities (located in medically underserved areas, e.g., Twentynine Palms).
- Teaching and training facilities, Headquarters and Joint Staff.
- All others.

Once a vacant billet has been identified and prioritized, the assignment and placement officers coordinate efforts to find an *available person* who is best qualified to fill the billet. The needs of the service are balanced against the career needs and desires of the individual.

Placement officers represent the needs of the service and act as the command's advocate to assure that the available officer is the best qualified to fill the billet. Additionally, they provide information to assignment officers regarding priorities for fill and claimant/command requirements. They evaluate proposals for billet fills by analyzing the qualifications of the officer being proposed against the requirements of the billet. They also determine if the proposed officer has completed the prescribed tour length at this present duty station and is available for reassignment. If any discrepancies occur during this evaluation process, the placement officer discusses the proposal with the assignment officer. Once the placement officer determines

TABLE 1
Medical Department Promotions

	FY92				FY93			
	Guidance Opp	FP	Actual Opp	FP	Guidance Opp	FP	Actual Opp	FP
<i>Medical Corps</i>								
CAPT	50%	22+1	75%	19-06	50%	22+1	75%	20-03
CDR	70%	16+1	85%	14-07	70%	16+1	85%	14-11
LCDR	80%	10+1	all qualified	9-03	80%	10+1	all qualified	10-02
<i>Dental Corps</i>								
CAPT	50%	22+1	70%	21-04	50%	22+1	65%	21-00
CDR	70%	16+1	80%	16-07	70%	16+1	75%	16-07
LCDR	80%	10+1	100%	10-00	80%	10+1	80%	10-02
<i>Medical Service Corps</i>								
CAPT	50%	22+1	50%	21-06	50%	22+1	50%	21-00
CDR	70%	16+1	70%	16-00	70%	22+1	70%	16-00
LCDR	80%	10+1	80%	10-00	80%	10+1	80%	10-02
<i>Nurse Corps</i>								
CAPT	50%	22+1	50%	22-03	50%	22+1	50%	22-00
CDR	70%	16+1	70%	18-00	70%	16+1	70%	17-07
LCDR	80%	10+1	80%	10-04	80%	10+1	80%	10-01

Opp=opportunity—promotion opportunity within zone.

FP=flowpoint—the *average* number of years from ensign date-of-rank to the next grade.

Guidance for flowpoint is plus or minus 1 year. 22+1 indicates an average of 21-23 years.

Flowpoint of 19-06 means 19 years, 6 months.

that the officer meets command requirements, the proposal is accepted and orders are written.

The assignment officers serve as the individual's advocate. They ensure that future assignments provide opportunities for promotion and professional development. While detailers represent the career needs and desires of an individual, they also maintain a perspective on the needs of the Navy.

BUMED specialty advisors serve as technical consultants in the distribution process. Although not directly involved in distribution decisions, they provide valuable advice relating to both billets and personnel associated with their communities.

Commanding officers, assignment officers, placement officers, specialty advisors, and individuals all play a role in the distribution process. The goal is to find the right person for the right job at the right time. With your help, the process works.

Summary

The three pieces of the People Puzzle really do fit together! The manpower system's two components, requirements and authorizations, define the "needs" and provide the allocation of resources identified by specific category. Once billets are defined, the personnel system establishes plans to meet the needs with people. The final piece, personnel distribution, matches qualified people to places. □

CDR Harmon is Head, Personnel Plans and Analysis Branch, LCDR Quisenberry is the Nurse Corps Personnel Plans Analyst, LT Magnusson was the Medical Corps Personnel Plans Analyst at the time this article was written, and HMC(AW) Scofield is a manpower analyst at the Bureau of Medicine and Surgery, Washington, DC 20372-5120. LCDR Denzer is a placement officer at the Bureau of Naval Personnel, Washington, DC 20370-5100.

The Origins of BUMED

Fleet Support and Fiscal Responsibility

Dale C. Smith, Ph.D.

August 31, 1992 marks the 150th anniversary of the Bureau of Medicine and Surgery (BUMED). The Bureau has grown with the U.S. Navy to become a large organization with diverse functions and responsibilities; but at the core, many of its tasks can be subsumed under two headings—the fiscally responsible support of a shore-based medical establishment and the medical support of the operational components. This is the story of the emergence of those functions in the early Navy and their institutionalization in the early years of BUMED.

In 1775, when the Continental Congress first commissioned ships, it provided for medical support through the authorization of a ship's surgeon. In 1798, with the creation of the Navy Department, surgeons were again authorized for service on ships. These

early surgeons were professional gentlemen, socially of the officer class, but not officers. Congress also provided for associates to be appointed under warrant, these less well qualified providers being designated surgeon's mates. Surgeons and surgeon's mates were engaged for a cruise and on completion of the cruise were discharged like the rest of the crew. The young republic also made provision for the care of seamen ashore through the creation of marine hospitals.

The Marine Hospital Act of 1798 authorized the deduction of a premium from the pay of all seamen, naval and merchant marine, for the support of hospitals in port cities.⁽¹⁾ Care was a perceived social obligation and the British experience provided the model for provision of that care, as it did for most naval affairs.

These straightforward provisions,

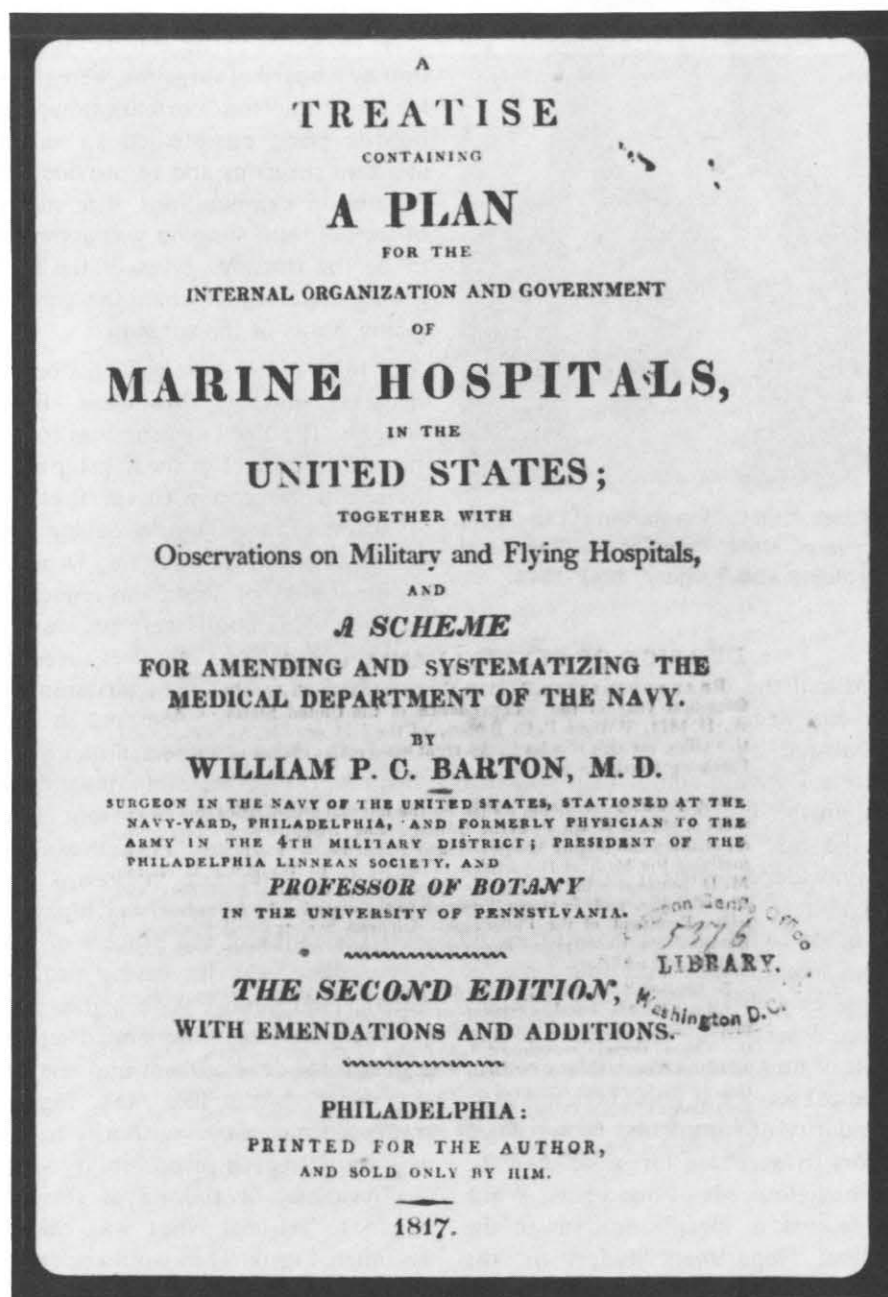
while meeting the immediate needs of sailors and ships, had failed to meet the needs of the Royal Navy and would fail in the U.S. Navy. While composed of sailors and ships, navies are something more. In navies, ships act in geographic concert in squadrons and fleets and/or chronological concert to achieve national goals over time. Navies thus require resupply, professional development, professional accountability, fiscal responsibility, and, most importantly, coordinated direction. All are best ensured by a centralized, hierarchical administrative structure. The medical support of the Navy also requires all these components and so needs a place in the administrative structure, but initially no such provision was made.

Until 1815, the Navy was directly managed by the Secretary of the Navy with the assistance of office clerks.

After the War of 1812, in which the United States experienced great success in single ship actions but had its coasts completely blockaded, Congress created a board of three commissioners, senior line captains, selected to assist the Secretary of the Navy. Their great strength was in the area of sustaining the sailing fleet. They were not favorably inclined toward changes in naval technology, either the development of steam power or new armaments. They had almost no familiarity with medicine and surgery and exhibited no collective, official concern with the details of the medical support of the fleet. The naval committees of Congress managed much of the naval activity through both authorization and appropriation.(2)

The Navy had begun to recognize the limitations of the initial medical provisions. In 1801, Congress accepted changes in the status of surgeons and allowed them to be paid as career employees. When in port, they could be on furlough or half-pay awaiting orders like ship's officers. This would allow the Navy to identify and retain qualified and experienced physicians as ship's surgeons. In 1804, Congress provided for the assignment of a surgeon to naval yards under the direction of the Captain of the Yard. The Navy expected a different standard of discipline than the merchant marine, and naval personnel hospitalized prior to the expiration of their enlistment frequently deserted.

At the request of the Navy Department, naval personnel were separated from the mercantile Marine Hospital Service in 1811 when a separate naval Hospital Fund was established. However, the difficulties of establishing naval hospitals in the naval yards in a time of war precluded permanent establishment of shore-based hospitals, and the Hospital Fund was used to meet the immediate expenses of the Navy in the War of 1812. The Captain of the Yard, responsible for all aspects of the yard, provided resources to the surgeon to hospitalize any member of the forces requiring it. Rental space, local hospitals, and auxiliary yard



The 1817 title page of William P.C. Barton's naval medical classic; this edition was "purchased by the government, for distribution among officials." [Benjamin P. Poore. *A Descriptive Catalogue of Government Publications of the United States, September 5, 1774-March 4, 1881*. Washington: GPO; 1885:115] The resulting discussions shaped the early development of Navy hospitals and BUMED.

buildings were all used at various times. The Navy acknowledged the expense of providing medical care, but neither the Secretary nor the commissioners had a solution to the rising costs.

As the 1820's passed to a close, Congress increasingly expressed concern over the status of hospitals which had been funded but never built.(3) Congressional prompting and supplemental funding resulted in the purchase of



William Paul Crillon Barton (1786-1856)
Surgeon, USN, Chief of the Bureau of
Medicine and Surgery, 1842-1844.

land and the building of hospitals in various yards. The Hospital Fund was exhausted by these capital improvements. The yard commander was also responsible for the supply of ships and in the case of medical supplies was heavily dependent for advice on the surgeon to the yard or the surgeon assigned to the ship. The outfitting of ships seemed to be a chronic drain on supplies. Until 1828 many physicians entered service as surgeons but had little or no appreciation of the needs of medical service at sea. There was little regularity of supply and no sustained effort to purchase for more than the immediate needs of one vessel. While there was a specific amount in the annual Department budget for the support of the sick, it was seldom adequate.

In 1814, Surgeon William P.C. Barton had compiled a study of naval medicine in which he suggested reforms related to supply and the shore establishment.⁽⁴⁾ The work was modified slightly in 1817 and purchased by the government for distribution. It provided a starting point for discussions of navy medical reform in the years that followed. In 1828, the direct appointment of surgeons was forbidden and the position of surgeon's mate was abolished. New physicians for the Navy would be appointed

as assistant surgeons, who, after 2 years sea duty and successful examination by a board of surgeons, were eligible for promotion. Formal examining boards were established to select assistant surgeons and to provide the promotion examinations. The status of the assistant surgeon was assumed to be the warrant status of the surgeon's mate rather than the gentlemanly status of the surgeon.

In 1828, a new post was created in the naval medical establishment—fleet surgeon. The fleet surgeon was to be the medical officer of the flagship and the senior surgeon with the fleet or squadron. Since personnel assignment was arranged by the Secretary to meet a wide variety of needs and requests, the two qualifications were not always met in one person. The fleet surgeon was charged with the supervision of the other medical personnel in the squadron and was expected to ensure adequate experience and educational opportunities for the assistant surgeons in preparation for their examinations to become surgeons. A hierarchy was emerging which paralleled the ranks of the officers of the Navy; there was increasing professional responsibility with higher status. Higher status depended upon professional development and service experience, but unlike rank, higher status did not confer authority to go with the increased responsibility.

Physicians in the naval service began to request what was called assimilated rank. They would be commissioned as Navy officers with the ranks of assistant surgeon, passed assistant surgeon (an assistant surgeon who had qualified for promotion but for whom no billet as surgeon was available), surgeon, and fleet surgeon. These ranks would be comparable to the line ranks from master to commander and would entitle the holder to military authority on medical matters and in medical facilities. Line officers were strongly opposed to the idea, fearing that rank and command were too intimately associated to confer the former without creating the presumption of the right to the latter.

Frequently, Navy captains, including the commissioners, whose status would not be affected, were open to some form of assimilated rank for surgeons. The issue was not an insignificant one. Surgeons pointed to the possibilities of desertion and general lack of discipline in hospitals where they held no military standing. Lack of status on shipboard and ashore for professional men was also at issue. Assistant surgeons were billeted with midshipmen because they were considered warrant officers. They frequently had their berthing spaces in the bowels of the ship, making it impossible for them to read and study in their berthing area, and very difficult to prepare for their examination to become surgeons. They were denied the privileges of the wardroom and, in general, were not treated as other physicians believed their professional status should indicate. However, nothing was done to resolve the issue, in large part because there was no central proponent for change.

In the 1820's formal instruction was begun for assistant surgeons at the Philadelphia Navy Yard.⁽⁵⁾ Beginning in 1823, Surgeon Thomas Harris had provided instruction in naval medicine and hygiene and operative surgery to those assistant surgeons and young surgeons who desired it. The Secretary made an appropriation, of about \$400 a year, to rent lecture rooms and purchase cadavers. These courses prepared the assistant surgeons for their exams as surgeons, refreshed surgeons who had been on shore duty for their return to sea, and, in general, improved the efficiency of operational medicine in the Navy. Annually, between three and eight naval medical officers attended this course of lectures, which, after 1829, was combined with extramural instruction at the Philadelphia Medical Institute, providing a form of continuing medical education.⁽⁶⁾

Medical issues were not the dominant naval issues of the 1830's; critics campaigned for reform of the Department based upon the inefficiencies and failures of the commission system. The

problems of professional status, medical supply and hospitals, while part of the criticism of the commissioners, were not unique to Navy medicine; American medicine was in a phenomenal state of flux. This period witnessed the rise of several alternative systems of medicine—botanical medicine, hydropathy, homeopathy—and the repeal of laws regulating the practice of medicine. Jacksonian democrats mistrusted professions and standards were difficult to maintain as the population, including physicians, moved westward. Traditional theories were questioned by medical leaders as well as by lay people. Hospitals were increasingly suspect places of charity. While Navy medicine was spared the worst abuses by the examination system of the 1820's, it was undoubtedly affected. Increasing costs and concerns about professional esteem combined with a general dissatisfaction of the commission system resulted in the creation of the Bureau of Medicine and Surgery as part of a reform in Navy administration in 1842.

The new bureau system included five bureaus: Yards and Docks; Construction, Equipment, and Repairs; Provisions and Clothing; Ordnance and Hydrography; and Medicine and Surgery. The head of each bureau was selected by the President and acted for the Secretary of the Navy. The position of Chief in both Yards and Docks and Ordnance was reserved to experienced captains of the line; the Chief of Construction was to be a respected naval constructor and Provisions could be either a civilian or a line officer. The Bureau of Medicine and Surgery was to be headed by a senior surgeon. The reorganization was passed and signed on 31 Aug 1842 and the President appointed the three commissioners and their chief clerk as the first four Chiefs. On 2 Sept, William Barton received orders to become Chief, Bureau of Medicine and Surgery. Barton, second in seniority among naval surgeons, was the obvious choice since his book of 1814 was a central document in reform discussions.(7)

Barton had an extraordinarily complex personality. In 1844, Representative Alexander H.H. Stuart of Virginia described him, in a speech supporting Barton, as having an "artificial and involved style" with a "manner and style of dress equally unnatural and eccentric."(8) In his first assignment, the frigate *United States*, under the command of Stephen Decatur, Barton had experienced difficulties of medical supply, but Decatur's support had solved the problems. With limited sea duty, Barton returned to Philadelphia and managed, through political and professional maneuvering, to remain assigned in the Philadelphia area through the War of 1812 and for the vast majority of his career. In doing so, he occasionally offended the sensibilities of other naval surgeons. Thomas Harris, whom he displaced at the naval hospital in Philadelphia, arranged to have him court martialled and, while exonerated, the enmity that remained between the two men would affect the new bureau. Barton left Philadelphia for Washington, abandoning a lucrative private practice, and complained of the financial sacrifices he had to make. His salary as Chief, Bureau of Medicine and Surgery was \$2,500 per year, a full thousand dollars per year less than the higher paid line officer

bureau chiefs. He complained of the lack of support and personal inconvenience, but attempted to master every detail personally.

The duties of the Bureau had to be specified and he worked with the Secretary to define the scope of the new bureau; it was charged with:

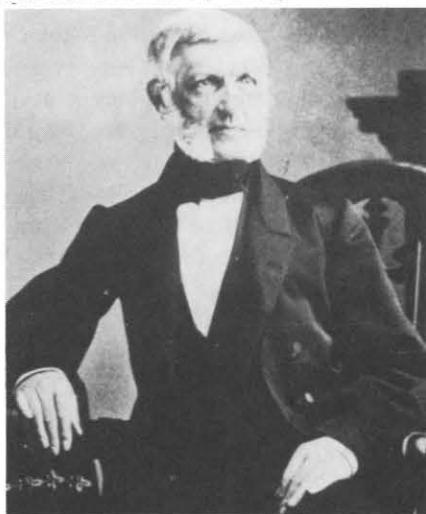
all medicines and medical stores of every description used in the treatment of the sick, the diseased and the wounded, all boxes, vials, and other vessels, containing the same, all diet for the sick, all clothing, beds, and bedding for the sick, all surgical instruments of every kind, the management of hospitals, so far as the patients therein are concerned, all appliances of every sort used in surgical and medical practice, all contracts, accounts, and returns relating to these, and such other subjects as shall hereafter be assigned to this bureau.(9)

This was a broad charter, focused on medical logistics and administration, areas in which both Congress and the Secretary felt there were the greatest problems.

The Hospital Fund had, by 1842, accumulated a deficit in excess of \$50,000. The annual appropriation by Congress as part of the naval budget of 1842 to pay for the direct medical support of the Navy was only \$30,000 in an \$8.5 million budget. The physical maintenance of hospitals was the responsibility of the Bureau of Yards and Docks, and separate appropriations were acquired to support the physical facilities, but the entire Navy was short of money. Internal economies had to be found; Barton began to look closely at the Hospital Fund receipts and expenses.

Barton rapidly discovered that the single greatest source of lost revenue was in the hospitals. Regulations allowed that the ration of a sailor confined to a hospital would be credited to the Hospital Fund since the hospital was providing the ration. However, the hospital had to claim the money from the general fund. Many hospital surgeons were simply not filling out the monthly provision forms to arrange for this transfer of funds. In October, after only a month on the job, Barton was prepared to withhold the pay of surgeons who failed to properly submit their paperwork. Barton

Archives, United States Navy Academy



George Bancroft (1800-1891) American historian and Secretary of the Navy, 1845-46.



Thomas Harris (1784-1861) Surgeon, USN, Chief of the Bureau of Medicine and Surgery, 1844-1853.

documented that one hospital's failure to properly administer the claims for the Hospital Fund had resulted in loss, in just over a year, of over \$5,000. Barton became increasingly officious in his effort to contain costs. Writing to the Surgeon at Norfolk in April 1843:

Sir: one of your bills is for two thousand one hundred and seventy quarts of milk from the 1st of July to the 30th of September. You will acknowledge that a quart of milk a day is enough for a patient on an exclusive diet of milk. Allowing your average of sick to be what your returns make it, I cannot suppose but the usual portion are on a milk diet—the residue only take the milk in their tea of course. A fourth of a pint of milk is quite sufficient for a pint of tea; a half pint therefore is enough for a quart of tea a day (morning and evening one pint). The milk bill presents between 23 and 24 quarts of milk a day. The amount therefore appears excessive. Will you inform me to what proportion of milk, per man, per day, you have allowed in his tea or coffee.⁽¹⁰⁾

This level of micromanagement brought Barton severe criticism from his colleagues.

At the same time, his efforts at economy began to damage the operational mission of Navy medicine. In 1843, he brought to the attention of the Secretary of the Navy that there was no legal permission for the Department to be running a school for naval medical officers. When the Secretary canceled Harris' expenditure, he destroyed the

only military medical educational opportunity available in America.⁽¹¹⁾ Barton's need for money to support the hospital establishment had damaged operational medicine; naval surgeons would struggle to regain operational education for the next six decades.

In an effort to gain control of the activities of surgeons in the fleet and in particular to control their requisition of supplies, Barton created an important revolution in naval procedures. By General Order, on 26 Oct 1842, "the medical officers of the Navy will make all communications and requisitions connected with their duty direct to the Chief of the Bureau of Medicine and Surgery of this department, and they will obey all orders and instructions which may be issued by that bureau, in which only their requisitions are required to be approved and executed."⁽¹²⁾ Barton was clearly trying to gain control of medical logistics, but he created the possibility of an officially sanctioned technical chain of command for medical officers. Barton's instructions for surgeons did not take full advantage of these possibilities but he requested information on health issues in addition to requisitions. This change was supported because it removed line officers from immediate responsibility for medical supply and centralized accounting for medical stores.

Barton's almost exclusive focus on logistics and fiscal responsibility and his meddlesome management style undermined his support among the surgeons of the Navy. His eccentricities made it difficult for political leaders to understand or work with him, and in 1844, after several months of broad hints through the Secretary of the Navy, President John Tyler was forced to demand the resignation of the contentious Bureau Chief.

The second chief was Thomas Harris, a different personality—congenial, collegial, a teacher, a gifted operator; he had served repeatedly aboard ship, having been captured by the British while serving as surgeon of the *Wasp* in the War of 1812.⁽¹³⁾ He

consulted with the surgeons and officers who would be using them in establishing the nature of forms and requisitions. He made continued progress in regularizing supply and eventually established a Navy Medical Laboratory in the Brooklyn Navy Yard to procure or produce medicines of lower cost and higher quality. He worked carefully with the Secretary to ensure the fiscal responsibility of the Department and expanded the direct communication of surgeons to the Bureau. Using Barton's order requiring direct communication, Harris began to build a system of reports so that standard nomenclature could be prepared and standard returns made on the sick of the fleets and yards. While the need for shore establishment administration and better medical logistics had driven the creation of the Bureau, the knowledge of medical conditions in the fleet achieved by the direct reports would allow Harris to achieve professional credibility in the Department and so transform the authority of the surgeons of the Navy. He continued to campaign for officer status and in 1844 obtained an order from the Secretary allowing assistant surgeons to berth and eat with the commissioned officers.

In May 1846, the United States declared war on the Republic of Mexico. The principal naval task, particularly in the Gulf Coast area, was transport defense and blockade. As Secretary Mason would describe it, "The enemy had no Navy and an inconsiderable Merchant Marine. Our ships of war had, therefore, nothing to contend with on their appropriate element."⁽¹⁴⁾ Blockade duty had always been a notorious producer of scurvy. The 1747 work of James Lind provided basic knowledge concerning the treatment of scurvy. During the Napoleonic wars the Royal Navy eliminated scurvy through improved logistics, providing fresh vegetables and fruits to crews on blockade. In 1846, the USS *Raritan* had been on duty in South American waters for 2 years when she joined the blockade. Her surgeon, Jonathan Foltz, urged the cap-

tain to obtain antiscorbutics, but the captain made no determined effort to secure them; a predictable epidemic of scurvy broke out among her crew. Among the just over 400 crewmen of the frigate, 163 were hospitalized with scurvy. Other vessels also had cases.⁽¹⁵⁾ The Secretary of the Navy was embarrassed by the comments of the observers from the British and French naval forces on the lack of awareness of the problem of scurvy among the officers of the U.S. Navy. In 1842, Congress had allowed the Secretary of the Navy great flexibility in the definition of the Navy ration and surgeons were tasked to work with the Bureau of Provisions and Clothing on the appropriate ration.⁽¹⁶⁾ The reports of scurvy and the failure to utilize available medical knowledge convinced Secretary of the Navy George Bancroft that there might be operational advantages to regularizing the status of naval surgeons.

On 31 Aug 1846, Bancroft issued an order providing for assimilated rank. Medical officers would rank with line officers of comparable seniority from master to commander.⁽¹⁷⁾ While there was line objection, on many ships it produced no real change, since the surgeons had been respected by their line officer colleagues. The order may have changed the attitudes of surgeons who felt they could be more vigorous in

their efforts to provide preventive medicine advice.

The war ended in 1848. Secretary John Mason, building upon Harris' data collection from the fleet, issued new responsibilities to the surgeons. The doctor was given the authority to inspect the liquor, water, and provisions, the care and cleanliness of the preparation of food for the crew as well as the personal cleanliness of the men. Everything that "came within the sphere of his knowledge" touching on the health and comfort of the ship's company was within the naval surgeon's jurisdiction, subject to inspection and report to central authority by order of the Secretary of the Navy.⁽¹⁸⁾ The Navy surgeon, assimilated rank in hand, with a technical chain of command and operational authority, was empowered by the new Bureau. A place for medicine in the centralized, hierarchical administration had been created and the surgeon had become part of the Navy through the creation of a Navy medical system. The tensions between the supplying of hospitals and yards and supporting the fleet remained real. Changes in medicine, changes in naval technology, changes in the international position and power of the United States all have modified the role of BUMED in the past 150 years. The essential task made possible by the creation of the Bureau, balancing fiscally responsible hospital-based medicine in yards and shore station with the operational requirements of the surgeon in the fleet, has been, by and large, a successful one. Since the creation of BUMED, this balancing has not been a problem to solve, but a condition to be maintained. It is a heritage in which participants can take great pride and from which they may derive confidence for the future.

References

1. Richmond A. *The Development of Medical Services in the United States Navy in the Age of Sail: 1815-1850*. Minneapolis, MN: University of Minnesota; 1973; Ph.D. Thesis. The best study of U.S. Navy medicine in the ante-bellum period.
2. Paullin CO. *Paullin's History of Naval*

Administration 1775-1911. Annapolis, MD: U.S. Naval Institute; 1968. Remains the best survey of Navy Department administrative history.

3. Bring HA. Navy medicine comes ashore: establishing the first permanent U.S. Naval Hospital. *J Hist Med*. 1986;41:257-292.

4. Barton WPC. *A Treatise Containing a Plan for the Internal Organization and Government of Marine Hospitals . . .*. Philadelphia, PA: privately printed; 1814.

5. Roddis L. Thomas Harris, M.D., naval surgeon and founder of the first school of Naval Medicine in the New World. *J Med Hist*. 1950;5:236-250.

6. Smith DC. *The Emergence of Organized Clinical Instruction in the Nineteenth Century American Cities of Boston, New York and Philadelphia*. Minneapolis, MN: University of Minnesota; 1979. Ph.D. Thesis.

7. Schultz HS. The first decade of the Bureau of Medicine and Surgery. *Milit Surg*. 1946;99:136-142.

8. Quoted in Frank Pleadwell. William Paul Crillon Barton, Surgeon, United States Navy: a pioneer in American naval medicine. *Ann Med Hist*. 1919;2:267-301. One of the best sources on Barton.

9. *Orders, Circulars, Instructions, Regulations, Navy Department: 1776-1863*. Circular of 26 Nov 1842. Naval Records Collection, Record Group 45. National Archives and Records Administration. Washington, DC.

10. Quoted by Richard C. Holcomb. *A Century With Norfolk Naval Hospital 1830-1930*. Portsmouth, VA: privately printed; 1930.

11. AP Upshur, Secretary of the Navy to Surgeon Thomas Harris, 20 Jan 1843. Naval Records Collection, Record Group 45. National Archives and Records Administration. Washington, DC.

12. *Orders*, op. cit., Order of 26 Oct 1842.

13. Roddis, op. cit.

14. Annual Report of the Secretary of the Navy, 1847. Quoted by KJ Bauer. *Surfboats and Horse Marines: U.S. Naval Operations in the Mexican War, 1846-48*. Annapolis, MD: United States Naval Institute; 1969.

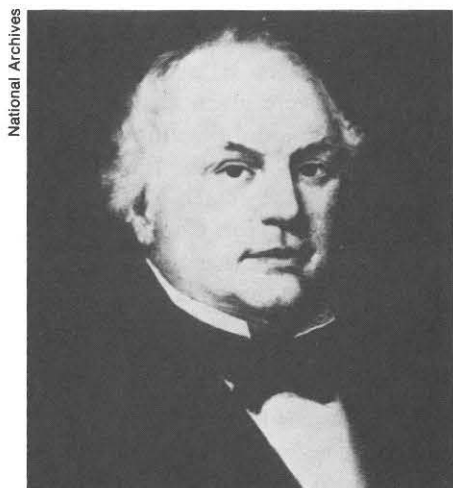
15. Foltz J. *Report on Scorbutus, as it appeared on Board the United States Squadron Blockading the Ports of the Gulf of Mexico in the Summer of 1846*. Philadelphia, PA: Collins; 1848.

16. Barboo SH. *A Historical Review of the Hygiene of Shipboard Food Service in the United States Navy, 1775-1965*. Los Angeles, CA: University of California; 1966. D Pub Hlth Thesis.

17. *Orders*, op. cit., Order of 31 Aug 1846.

18. *Orders*, op. cit., Circular of 25 April 1848. □

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John Y. Mason (1799-1859) Secretary of the Navy, 1844-1845 and 1846-1849.

Combat Fitness Retraining Program

An Idea Whose Time Has Come

CDR William W. McDaniel, MC, USNR

Warfare has become more dangerous and stressful through the centuries. The weapons of today are more destructive, powerful, and accurate than any taken to the field before. The dangers to be faced and the tools with which they would face them were understood by the troops of Operation Desert Shield when they deployed to the Arabian peninsula. Those involved in health care faced that reality when deployed to a war zone, too. The consequences for mental health personnel were several.

In every armed conflict where such things were studied, regular forces on the ground sustained about one psychiatric casualty for every three men wounded.^(1,2) It has been shown repeatedly that the great majority of these were normal people overwhelmed by stress.⁽¹⁻⁴⁾ With proper treatment, most of these casualties recover completely and successfully return to duty. Improperly treated, many may sustain permanent psychiatric disability.⁽¹⁻⁶⁾

The proper treatment for troops suffering from combat stress reactions (CSR) is very simple. They need brief, immediate rest, out of the immediate danger of battle but as near their units as possible, with reassurance that they will return to normal quickly, followed by a quick return to their units.⁽²⁾ This type of treatment for 48-72 hours will permit about 80 percent of casualties with acute CSR to return to duty.⁽²⁾

The remaining casualties were simply evacuated in the past. During the 1980's, a new echelon of care for CSR casualties was conceived for these patients, employing group behavioral therapy in a more rear echelon, still relatively close to the front. The exact origin of the idea is not clear, but the first documented implementation of it occurred in 1982 during the Israeli war in Lebanon, where three separate echelons of care were used to provide a staged treatment response to CSR.⁽⁵⁾ The first two levels

of care utilized the familiar principles of brevity, immediacy, centrality, expectancy, proximity to unit, and simplicity, often summarized by the acronym "BICEPS." The third unit was intended for the most severe CSR casualties, those who did not recover after the treatment of "the two former echelons or who came for treatment at a later stage."⁽⁴⁾

In the new echelon of care, CSR casualties were provided treatment in a military milieu with continued emphasis on the idea that the "patients" were normal men reacting to an abnormal stress. While still afforded safety, rest, and replenishment, they were held to a strict military schedule, given lots of physical training and sports activity, and offered group and individual therapy on a regular basis for up to 2 weeks. With this treatment, about 40 percent of even this refractory group of CSR casualties returned to full duty.⁽⁴⁾ The unit was called the Combat Fitness Retraining Unit (CFRU).

Navy mental health providers assigned to Operation Desert Shield fleet hospitals (echelon III ashore medical treatment facilities, or MTFs) were given a free rein in adapting the idea to their facilities, and the unit was to be called a "CFRP." At Fleet Hospital 5, the first ashore echelon III MTF, the model of the Israeli CFRU, was followed by letting the acronym stand for "Combat Fitness Retraining Program." This approach was appealing because of its reliance on treating the troops enrolled in the program as normal men exhausted and frightened by things that would have that effect on anyone. At least one other fleet hospital was using the same approach, adapting the Fleet Hospital 5 model to their facility.

The essential first step in the management of these casualties is an evaluation. It would necessarily be brief, but sufficient to allow reassurance to the distressed casualty that he is, in fact, not afflicted by any illness, and can

expect to return to full function after adequate rest and replenishment. This would replicate the evaluation done at earlier echelons of care, but the message of wellness bears repeating. It is the one aspect of treatment that has made the most difference between helpful and harmful treatment of CSR casualties.

It is also important to identify those casualties who have psychiatric illness, as they require different treatment. It is important to watch closely for the difference between acute and chronic combat stress syndromes because the management and prognosis are different. Rahe's 1988 formulation of these two syndromes is the most current and useful.⁽⁶⁾ If Operation Desert Storm had led to substantial allied casualties, it would have been the first opportunity to test Rahe's formulation in the field. If it is correct, one expects differences between the presentation and response to treatment of chronic and acute CSR casualties too severe to remit after 48-72 hours of treatment. The acute cases are primarily overwhelmed by the dangers and shocks of combat, and most recover within 48-72 hours. Chronic cases are more likely to have depressive symptoms, and may be viewed as being "worn down" by the constant stress of battle. They typically recover more slowly, and are the ones for whom the CFRP was originally conceived.

As envisioned, the CFRP can handle CSR casualties in varying group size, depending on demand, available space, and staffing. Patients admitted to the CFRP are given space separate from wounded or sick patients. This is designed to discourage them from identifying themselves as sick or hurt. They sleep on regular cots instead of hospital beds. They are given a schedule and are responsible for keeping to it. The schedule allows 7 hours of sleep, and 3 hours of free time daily. The rest of the schedule is structured. Physical fitness and team sports (Fleet Hospital 5's compound was well-suited for playing basketball and volleyball) are emphasized as ways to foster physical courage and self-confidence. Team sports also serve as reminders of the value of teamwork, and of belonging to a team. Buddy care under medical supervision for any minor injuries serves the same purpose.

Group psychotherapy is used as a way to let CFRP members discuss and abreact their battle experiences together, in a setting that maximizes the probability of consensual validation and mutual support. Staff members serve as group facilitators, as symptom monitors, and by guiding the program.

The community meeting is used differently than what is typically used on psychiatric wards. It is done with military formations, sometimes including uniform inspection or close order drill, includes frequent talks by the commander (the officer in charge of the program), and includes a simple graduation ceremony weekly for those CFRP members completing the program to return to duty. It is hoped this procedure will foster healthy competition among the trainees, and formally confirm for each graduate that he is, in fact, recovered and fit for duty.

The duration of treatment is 7-14 days, and probably will be limited by theater medevac policy (which sets the maximum allowed length of stay at each echelon of care).

The third echelon of care for CSR casualties is a tested idea, and the principles used in its design worked well in their initial test.⁽⁴⁾ To our knowledge, the U.S. Navy never implemented the CFRP concept until the fleet hospitals deployed with Operations Desert Shield/Storm. There is immense tactical value in treating CSR casualties because most are able to return quickly to their units and fight. The established treatment methods have consistently returned about 80 percent of CSR casualties to duty. The echelon III CFRP can be expected to perform as well as the Israeli model did, returning another 40 percent of the remainder to full duty. If the number of casualties in any future conflict is high, as could be the case in any modern war, the return to duty of about 90 percent of the CSR casualties could make the difference tactically, since CSRs should account for about 25 percent of total casualties. Even more important than this tactical concern, most men and women who suffer from CSR can return to useful, productive lives when combat is finished. Appropriate management improves their chances of doing so.

Military commanders often ask whether they can trust members who return to their units after treatment for CSR. The experience from this country's wars is unequivocal. Men who recover from CSR are again functional soldiers. The other question asked as often is whether those troops are more vulnerable to another episode of CSR. There is only one study we know of that addressed the question. It showed that of Israeli soldiers who suffered CSR in the 1973 war, and stayed on to fight in 1982, only 1 percent suffered another CSR.⁽⁷⁾ It therefore appears that those troops who completely recover from CSR are actually less likely to suffer CSR in a later action than other troops.

References

1. Glass AJ. Psychotherapy in the combat zone. *Am J Psychiatry*. 1954;110:725-731.
2. Kentsmith DK. Principles of battlefield psychiatry. *Milit Med*. 1986;151:89-96.
3. Belenky GL, Tyner CF, Sodez FJ. *Israeli Battle Shock Casualties: 1973 and 1982*. Report NP-83-4. Washington, DC: Walter Reed Army Institute of Research, Division of Neuropsychiatry; 1983.
4. Neumann M, Levy A. A specific military installation for treatment of combat stress reaction during the war in Lebanon. *Milit Med*. 1984;149:196-199.
5. Belenky GL, Noy S, Solomon Z. Battle stress, the Israeli experience. *Milit Rev*. 1985;29:37.
6. Rahe RH. Acute versus chronic psychological reactions to combat. *Milit Med*. 1988;153:365-371.
7. Solomon Z, Oppenheimer B, Noy S. Subsequent military adjustment of combat stress reaction casualties—a nine year followup study. *Milit Med* 1986;151:8-11. □

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View From the Cot:

Patients Opinions of Medical Care During Desert Shield/Storm

CAPT J.R. Wheeler, MSC, USNR
S. Noble

"Why does it take me a month to return to the States with this minor wound when they flew me over in 18 hours?" "I thought the care was excellent at the front and in the hospital." These comments came from patients returning from Operations Desert Shield/Storm as a result of a survey and personal interviews conducted during and immediately after the conflict by the Naval Medical Doctrine Center (NMDC) staff, Bethesda, MD.

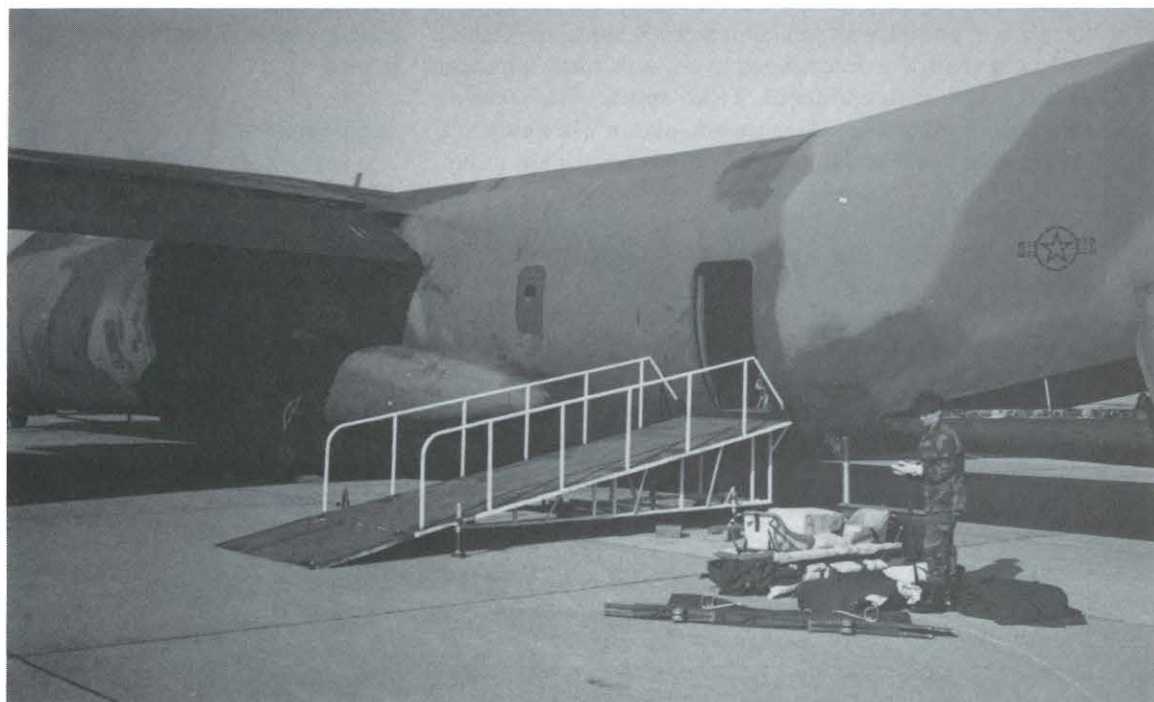
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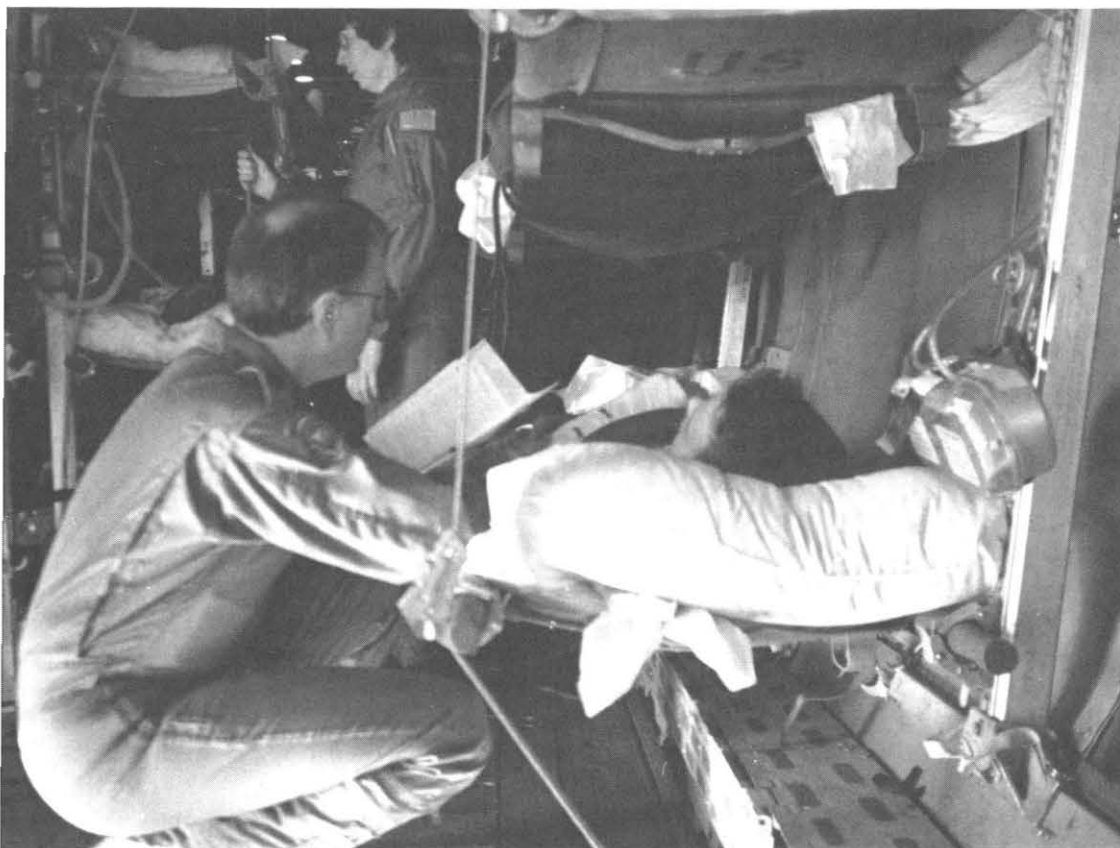
The NMDC staff, charged by the Surgeon General with coordinating lessons learned, was concerned about how the patients felt about their care. Hopefully, indicators of successes and problem areas in the military health service support system could be identified and remedied before the surge of casualties expected from a mature conflict.

Polling casualties returning through the Aeromedical Staging Facility/

Flight (ASF) at Andrews Air Force Base, MD, from February through April 1991, the goal was to hear from all casualties who had been in contact with Navy health support, regardless of the casualty's parent service. A total of 1,654 patients responded (or 31.7 percent of the 7,216 patients evacuated from the Kuwait Theater of Operations (KTO) by the Armed Services Medical Regulating Office (ASMRO)). Patients expressed their opinions about where and how they

On the ground after arriving at Andrews AFB, a C-141 awaits offloading of patients from Desert Storm.





10th ASF flight surgeon confers with patient prior to transfer to an ambulance. *Below:* Flight nurses ensure that patient records are complete before transfer from aircraft.

received care, how they were processed by the medical evacuation (medevac) system, and where they believed their personal gear and records were.

While patients entered the medical care "system" in a variety of ways, they were not considered in the "medevac system" until discharged from a medical treatment facility (MTF) and medically regulated by ASMRO. They then were held in an ASF before and in between flights; this waiting period could last up to a week and was of great concern to a majority of patients.

Preview of Results

Overall, most casualties were active duty, Army, enlisted, and male, although all services, both sexes, and officers were represented. While they felt they received good care, they noted the evacuation procedures were long and were concerned about the location of their personal gear. Most felt uninformed about their medevac arrangements or final destination.

On the whole, patients seemed very willing to share their opinions on this subject and, in fact, several expressed



Photos by CAPT J.R. Wheeler, MSC

pleasure that someone was willing to listen to their opinion. It has been suggested that filling out the questionnaire assisted these returning veterans in adjusting to postwar life.

In-Theater Care

The importance of "buddy-aid" training was revealed when more than one-third of the patients noted a buddy was the first person to assist

Ambulance bus and ambulance are ready to receive offloaded patients.



when they were injured. Specific service organizations showed slight differences interpretable as having ready access to a trained medical provider. The largest responses, by service, were: Air Force—buddy, Army—buddy and medic, Navy—corpsman, Marine Corps—corpsman.

The type of MTF first visited also seems to be service specific with 51 percent of the Marines going to a battalion aid station (BAS) and 25 percent to a fleet hospital. Army patients were evenly divided between BAS, Mobile Army Surgical Hospital, and combat support hospital while Navy patients went to the fleet hospital 38 percent of the time and a hospital ship 18 percent. (In retrospect the selections of answers were skewed for Marine Corps ground personnel with some echelons of other services' care facilities included as "other.") All echelons of care were used as a first MTF, probably due to the locations of MTFs, types of injuries, and transportation available.

10th ASF medic monitors patients during bus ride from aircraft to ASF.

The next level of care tended to be more diverse as the care required seemed to dictate the treatment facility. Army hospitals received 65 percent of this level of patient, probably due to the volume of Army patients and the fact that patients were evacuated through Europe with its higher percentage of Army hospitals. Specifically, 60 percent and 45 percent, respectively, of the Marine and Navy

patients went to a fleet hospital and 85 percent of the Army patients went to their hospitals.

When the patients were asked to select the best description for the quality of care they received since becoming a casualty, 72 percent said it was "very good" and 17 percent said "good" (Table 1). Patients were also asked, "How would you rate your corpsman/medic care?" Twenty-eight percent



said "very good" and 66 percent said "good."

Medical Evacuation

The initial transportation of patients defined and showed a variety of vehicles possibly due to the availability of aircraft and ground transportation and weather factors. Even rental cars and a "meatwagon," were used.

Opinions about the smoothness or confusion of the medevac process (Table 2) were generally favorable given the caveats outlined above and comments registered in the open-ended questions. Strong concerns were registered about the delays engendered by a "hopping" system when they had flown out in 18 hours, treating broken fingers and head injuries alike (with the total system designed around the latter). Patients were not routinely informed of what was going on and this brought about a lot of frustration. Instances of families not knowing the whereabouts of the servicemember in the medevac system for weeks at a time caused concern.

When patients were interviewed at Andrews, most had been "in the system" quite a while. Only 47 percent said their final destination in the continental United States was the same as on their orders with 14 percent having no orders. An often expressed concern was that the patient did not get a choice of final stateside destination.

Personal Effects

The medevac system doesn't seem to do well in keeping an individual's personal gear with him as 32 percent said they didn't know where it was and 50 percent said "somewhere in the medevac system" (recognizing they were answering this question at their first entry point into CONUS) (Table 3).

The same holds true for their medical record with only 64 percent having it with them. (One unfortunate hospitalman recruit who was in the system for a lengthy period of time had retained only his pay, medical records, and ID card. All the rest of his gear

TABLE 1		
Number of Responses	Quality of Care	Percentages*
1,154	Very good	72.1
267	Good	16.7
134	Fair	8.4
46	Poor	2.9
53	No response	

*The percentage is only calculated for responses.

TABLE 2		
Number of Responses	Medical Evacuation	Percentages*
348	Very smoothly	21.2
332	Little confusion	20.4
437	Several time delays	26.8
257	Lots of confusion	15.8
255	Extreme confusion	15.7

*The percentage is only calculated for responses.

TABLE 3		
Number of Responses	Seabag/Duffle	Percentage*
503	Do not know	32.3
239	With me	15.3
780	Somewhere in medevac	50.1
36	Other	2.3
96	No response	

*The percentage is only calculated for responses.

was long gone. Many patients arrived with no uniforms, ID cards, pay, medical records, or money.)

Recognizing the importance of the chemical/biological threat at the beginning of the war, it is gratifying to know 88 percent of the respondents

felt their training in MOPP protective gear was adequate.

Observations

In the first part of the survey (In-Theater Care), participants' answers reflected the following:



10th ASF Casualty Receiving Area at Andrews

- The importance of buddy-aid. As the "buddy" was most often the first person to assist, the need to continue buddy-aid training was emphasized.
- Casualties used all four echelons of care as first and second MTFs. The concept of echelons of care is a good one; however, experience has shown that casualties will use what facility is nearest and/or available.
- Casualties felt their corpsmen and medics gave quality care. These men and women should be proud of the job they did and should be recognized for being good ambassadors of the health support system.

In the second part of the survey (Medical Evacuation), patients indicated they were not pleased with the system:

Even though the short duration of the conflict and the low number of casualties did not test the medevac system to its limits, problems still arose which are indicative of serious flaws. The multistop medevac system, functional in peacetime, should be reevaluated for a wartime scenario. A tri-service approach, with greater emphasis on medical regulating (communications) and monitoring effective patient care, seems to be most appropriate.

Delays at the ASFs should be minimized due to the minimal levels of care available and restrictions on ambulatory patient freedom of move-

ment on the base/post/hospital. Often transient hospitals were viewed by the patient as being reluctant to provide desired care because of the tentative travel schedule of the patient. (The importance of qualified service specific patient administrators at the ASFs was amplified by the number of patients reporting lost records, uniforms, personal belongings.)

One of the more common complaints—confusion about final destination—could possibly be resolved with better education of patients in the medevac process. Patients complained either their final destination was quite far from their home of record (and, thus, their families), or their final destination was changed after they had notified their families and they had no way to reach family members to let them know of the change. Better briefing on the medevac process will not change either of the problems but may better prepare the patient for dealing with them. The monitoring of the effectiveness of the system as it relates to patient care should be incorporated using the TEAM approach.

In part three of the survey (Personal Effects), participants' answers reflected the following:

- The threat of a chemical or biological war in Desert Storm spurred the services to train their personnel in the use of MOPP gear. Obviously, a vast majority of the customers felt comfort-

able with the training they received.

- Again, education might help in the issue of transporting personal gear. Survey participants indicated a high level of frustration because they didn't know where personal gear was located, they didn't understand the system, and were afraid that personal gear might be lost completely. Understanding the system before entering the system might save a great deal of frustration and lost gear.

- Medical records traveling with the patient are important to health care and for efficient use of health care dollars. A tri-service policy should be written and promulgated to ensure medical records remain with the patient and are used in his/her treatment.

- Total quality leadership (TQL) should be incorporated into medical regulating, the medevac system, transient care facility management and, in effect, all aspects of the treatment of patients. An excellent base line can be provided by the 10th ASF at Andrews AFB as it functioned during Desert Shield/Storm.

Conclusion

This survey was part of a proactive effort by the Naval Medical Doctrine Center to uncover problem areas in patient care during Desert Shield/Storm which might not surface during action-officer conferences.

Patient satisfaction with the care received appeared to be high despite certain concerns that seem to be inherent in a military mass movement system. However, improvements in the system appear to be possible through the use of existing management tools and should be accomplished before the lessons learned fade into history. □

When this article was written, CAPT Wheeler, a member of NDMS TM 101, Providence, RI, and Ms. Noble, a program analyst, were assigned to the Naval Medical Doctrine Center, Bethesda, MD.

Occupational Medicine and Training of Family Practice Residents

CAPT Thomas W. Henn, MC, USN

For several years it has been known that there is a severe shortage of qualified, certified occupational medicine physicians in the United States. That fact coupled with the markedly increased demand fostered by social and environmental factors in a technologically and industrially sophisticated culture demand this issue be addressed.

A recent article in the *Journal of Occupational Medicine* projects an estimate that about 650 occupational medicine specialists were actively practicing at the time of the survey and about half are available to the community physician for consultation. In 1980 the Graduate Medical Education National Advisory Committee panel on preventive medicine employment estimated that between 2,300 and 3,900 occupational medicine specialists would be needed by 1990. However, by 1989 the American Board of Preventive Medicine listed only 1,400 physicians as board-certified in occupational medicine, leaving a rather large gap to fill.

It is estimated that 100,000 people die each year from occupational-related illness, and there are about 400,000 new cases of occupational disease per year. The Navy is really a large industrialized corporation and thus has all the usual and some very specialized exposures to occupational-related stressors, e.g., undersea medicine, aerospace medicine, nuclear medicine, shipyard exposure, and the Marine Corps. Clearly, with billets for only 26 occupational medicine specialists and approximately 50 in various capacities in the Navy, the majority of clinical occupational medicine will need to be done by other primary care physicians. The Navy family physician is ideally suited to provide a certain level of expertise.

With the above in mind, the Occupational and Preven-

tive Medicine Department in conjunction with the Family Practice Residency at Naval Hospital, Bremerton, WA, began, in 1984, a formal rotation and exposure to this speciality geared to the family physician and what he or she will be doing in the Navy. Utilizing the Core Curriculum Guidelines in Occupational Medicine for family practice residents endorsed by the American Academy of Family Practice, the Society of Teachers of Family Medicine, and the American Occupational Medical Association, a 1-month program, which was mandatory in the third year, was implemented.

The clinical rotations occurred at:

- Puget Sound Naval Shipyard, WA
- Naval Undersea Weapons Stations, Keyport, WA
- Naval Submarine Base, Bangor, WA
- Washington State Laboratory, Seattle, WA

The Occupational and Preventive Medicine Department at Naval Hospital Bremerton had six divisions:

- Occupational Medicine
- Industrial Hygiene
- Radiation Health
- Audiology (hearing conservation program)
- Preventive Medicine (epidemiology, sanitation, infectious disease)
- Occupational Health Nursing

Occupational medicine was responsible for:

- Organization of an occupational/preventive medicine department
- Occupational pulmonary disease

- Solvents
- Metals
- Impairment, disability, and workmans compensation

Industrial Hygiene was responsible for:

- Sampling the environment
- Pels and stels
- Workplace monitoring
- NOHIMS project as a tool

Radiation Health oversaw:

- Radiation health physicals
- Monitoring for radiation
- P-5055 and how to use it
- Radiation health accident drills

Audiology was responsible for:

- Navy hearing conservation program
- Audiograms and how to read them
- Use of the tympanograms
- Specialized audiology testing
- Demonstration of the MOCAT

Preventive Medicine oversaw:

- Sanitation
- Water samples, testing, and Water Lab
- Infectious disease
- STDs
- Education and training for the fleet
- Insect and pest control

Occupational Health Nursing had responsibility for:

- The role of the occupational health nurse
- Medical surveillance and testing
- Role in asbestos, respirator, and hearing conservation program
- NIOSH-approved spirometry course
- Quality assurance of medical surveillance programs

The residents rotated through each division to understand not only the role of the division but how it interrelated with the others to form a coordinated program. There was both a didactic and practical portion to each rotation. The rotation was supplemented by a basic series of 12 1-hour monthly lectures given at noon and covering the following:

- Pneumoconiosis (asbestosis, silicosis, CWP)
- Hypersensitivity pneumonitis
- Heavy metals
- Solvents
- Pels, stels, and industrial hygiene
- Occupational noise and the hearing conservation program
- Is everything a carcinogen?
- Occupational skin disease (contact dermatitis, allergic dermatitis)

- Impairment, disability and workmans compensation
- Practical epidemiology and biostatistics
- Radiation health in the Navy
- Preventive medicine in the Navy (epidemiology, infectious disease, water, food sanitation)

A printed syllabus was developed and written by several of the occupational health physicians and nurses and given to each resident as a text. A recommended set of texts were provided for those who desired more in-depth reading. At the conclusion of the rotation, the residents were asked to evaluate the program as to its success in providing a good background and set of resources for dealing with occupational and preventive medicine in the Navy.

Conclusion

There was almost universal and enthusiastic acceptance for the rotation from the residents and the faculty. Some residents continued to correspond with the appropriate division head about problems they were confronting during their assignments after leaving the residency.

Several residents commented that the rotation should have been longer, but in a tightly packed residency program that would have been difficult. Unfortunately, the residency was discontinued only after three groups of residents but since has been restarted.

The overall feeling of everyone involved was that the rotation was positive and should be considered in the rotations of other family practice and primary care internal medicine residencies within the Navy.

Bibliography Suggested Reading

1. *Occupational Health*. Harrington JM, Gill FS. Blackwell Scientific Publications. 2nd ed.
2. *A Synopsis of Occupational Medicine*. Tyrer FH, Lee K. Wright Publications.
3. *Occupational Health: Recognizing and Preventing Work-Related Disease*. Levy BS, Wegman DH. Little Brown Co. 2nd ed.
4. *Handbook of Occupational Medicine*. Edited by McCunney RJ.
5. *Clinical Occupational Medicine*. Rosenstock & Cullen. Saunders Bluebook series.
6. *Occupational Health Law: A Guide for Industry*. Edited by Ladou J. Dekker Publications.
7. *Clinical Medicine for the Occupational Physician*. Edited by Alderman MH, Hanley MJ. Dekker Publications.
8. *Occupational Medicine: Principles and Practical Applications*. Zenz C. 2nd ed.
9. *The Yearbook of Occupational and Environmental Medicine*. Yearbook Publications.
10. *The Journal of Occupational Medicine*. Published by the American College of Occupational Medicine.
11. *Fitting the Task to the Man: An Ergonomic Approach*. Taylor & Francis. International Publication Service. New York.
12. *Chemical Hazards of the Workplace*. Proctor & Hughes. Lippincott Publications.
13. *AMA Guide to Permanent Impairment*. AMA Publications. □

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Navy Medicine

July-August 1942

Jennifer Mitchum

In May and June, Allied forces saw two impressive victories in the Battles of Coral Sea and Midway. Midway cost the Japanese plenty but not enough to make them close up shop. Instead, they were reinforcing their forces and establishing military facilities. Such enemy activity prompted the activation of "Operation Watchtower." It was to be the first large-scale amphibious landing by Allied forces in the Pacific and the first American land offensive of the war.(1)

On 7 Aug, marines landed on Florida, Tulagi, Gavutu, Tanambogo, and Guadalcanal, Solomon Islands. On Guadalcanal, marines landed virtually unopposed. The Japanese, taken by surprise, had left in a hurry.

Across the strait, the story was different. The approximately 7,500 marines who landed on Florida, Tulagi, Gavutu, and Tanambogo faced tough resistance from Japanese troops. A significant number of casualties accumulated and a reported 1 man out of every 10 on Gavutu was a casualty.(2)

With the exception of a few isolated nests of snipers, forces had gained control of Tulagi, Gavutu, and Tanambogo by 2200 on 8 Aug despite

difficulties. Estimated Japanese losses were 1,500 killed, 23 captured, and 70 escaped to Florida Island.(3) Our casualties were comparatively small—8 officers and 100 enlisted men killed, missing or died of wounds, 7 officers and 133 men wounded, a total of 248 casualties in taking the three islands.(4)

Medical personnel accompanying Marine units ashore made unceasing efforts to get the wounded to safety and care for them. Company aid men, maintaining a position about 200 yards behind the front lines, administered plasma and morphine and applied dressings and splints. They landed closely behind the initial assault wave and were the first line of Navy medical care. Some waves later, battalion aid medical personnel and equipment arrived.

In the initial stages of the campaign, battalion and regimental medical sections carried only combat medical equipment and supplies. These units usually consisted of 2 medical officers and about 20 hospital corpsmen. Upon their arrival, stretcher parties, formed largely from rear echelon troops, brought wounded back to battalion aid stations set up about 600

yards behind the line. They moved forward as the line advanced.

The last link in the Navy medical care chain was the medical companies, each consisting of 6 medical officers and approximately 80 corpsmen. These companies were divided into three sections—collecting and sorting, hospital, and evacuation. Collecting went inland to battalion aid stations and evacuated casualties to the beach. They were then loaded aboard boats and carried to transports anchored offshore which took them to medical facilities on nearby islands. Field hospitals weren't erected in the early stages of the campaign because of daily aerial bombing and artillery fire.

Several overall problems hampered Navy medicine's effectiveness in the initial stages of the Guadalcanal campaign. One was communication. Patient evacuation from beaches was often delayed due to a lack of communication facilities and centralized control. Control boats had been provided but communication didn't exist between them and beach medical sections. Problems also revolved around the coordination of evacuating ships. Medical facilities aboard some ships were disproportionately overcrowded



compared to others because of a lack of coordination. For instance, some ships didn't fly the "Mike" flag indicating that they could accept casualties.

Enemy Number One

Navy medicine also faced several challenges once ashore. When forces reached the deserted Japanese camp on Guadalcanal, on 8 Aug, they found a trove of useful supplies and equipment including food but also an abundance of refuse. For example, this camp, representative of camps elsewhere, swarmed with flies and mosquitoes. This was due in part to conditions prevailing in rain forests and the presence of latrines full of waste left behind by the enemy. Thus, sanitation was a major problem. Personnel had to destroy the latrines and construct new fly-proof facilities. In addition, they had to find ways to dispose of garbage. Burning was ruled out for fear that the smoke would be a beacon for enemy air forces.

Such unsanitary conditions invited disease; illnesses such as catarrhal fever, dengue, and malaria were soon evident. Malaria appeared about 2 weeks after the initial landings. By the end of August, 22 (5) men had been added to the First Marine Division sick list for malaria on Guadalcanal

and this number climbed steadily.

A number of factors influenced the escalation of malaria cases. For one, many men lost or discarded their head and bed mosquito nets during landing operations leaving them nearly defenseless. Furthermore, line personnel and men were more concerned with killing the enemy and avoiding being killed than with adhering to preventive medicine. Moreover, troops had to maintain good mobility and had to be able to carry the bulk of their livelihood on their backs as they roamed through the steamy heat and rain. Thus, they prioritized their essential items and antimosquito equipment was not high on the list.

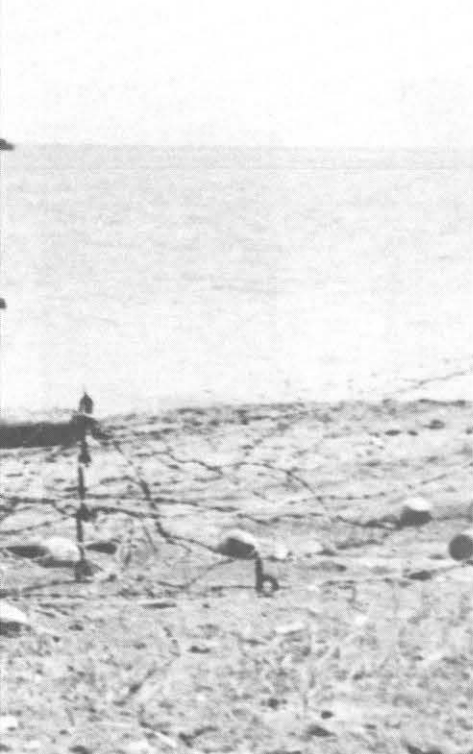
Hospitals Answer the Call

Transports and other vessels carried wounded to Navy medical facilities located on islands behind battle lines. Base Hospital No. 2 and Mobile Hospital No. 3 were already established in Efate Island, New Hebrides, and American Samoa at Tutuila, respectively. At the start of the campaign, Mobile Hospital No. 4 was being erected in Auckland, New Zealand, and Mobile Hospital No. 6 arrived in Wellington, New Zealand, on 7 Aug. Housed in a partially completed 300-bed Army convalescent hospital in a

locality known as Silver Stream, Mobile Hospital No. 6 personnel received their first patient on 8 Aug. Likewise, most hospitals operating in the South Pacific received patients while they were being erected and expanded at a rate to meet the growing need for beds.

Navy Medicine at Sea

Since the beginning of the war, Navy medical expertise saved countless lives at sea. The Guadalcanal campaign was no exception. USS *Solace* picked up her first load of casualties, which came mainly from U.S. cruisers shot up in the Battle of Savo Island and from Guadalcanal and Tulagi on about 16 Aug. Medical consultants and staffers sorted the casualties and determined which would go to Army facilities and which to Mobile Hospital No. 4, Auckland, New Zealand. Personnel performed several surgical and orthopedic procedures en route and 3 days later *Solace* arrived at Auckland. Personnel disembarked the 360 (6) wounded and transferred them to the mobile hospital. *Solace* remained in port until 25 Aug and then sailed for Espiritu Santo. Before the end of the Guadalcanal campaign, *Solace* would have made several trips like this one.



Leaving Guadalcanal, a wounded marine is carried along the beach to a ship which will take him to a hospital behind battle lines.

out under the most difficult circumstances with relatively crude arrangements. But such was the skill of these two surgeons that not a single one of the casualties, to my knowledge, subsequently died.”(8)

Advance Base Units: Acorns, Lions, and Cubs

The establishment of advanced base units was first considered in 1941 in connection with the Lend-Lease program and the development of bases in the Western Hemisphere. But when war broke out, the material and equipment assembled for Lend-Lease bases were diverted and shipped overseas. As a security measure late in 1941, these bases were given code names

while they were being assembled. Destroyer bases were called Lions and seaplane bases Cubs. A Lion was a unit designed to provide all necessary services, including medical and hospital, for an advanced base of 50,000 or more men. Cubs were designed to serve smaller advanced bases. Sometimes a scion from a Lion became a Cub. In addition, there were Acorns, highly mobile units that provided shore-based aircraft groups in amphibious forces and advance bases with necessary support and services upon landing in combat zones. The medical component of Acorns provided a 100-bed mobile dispensary which was divided into two echelons.

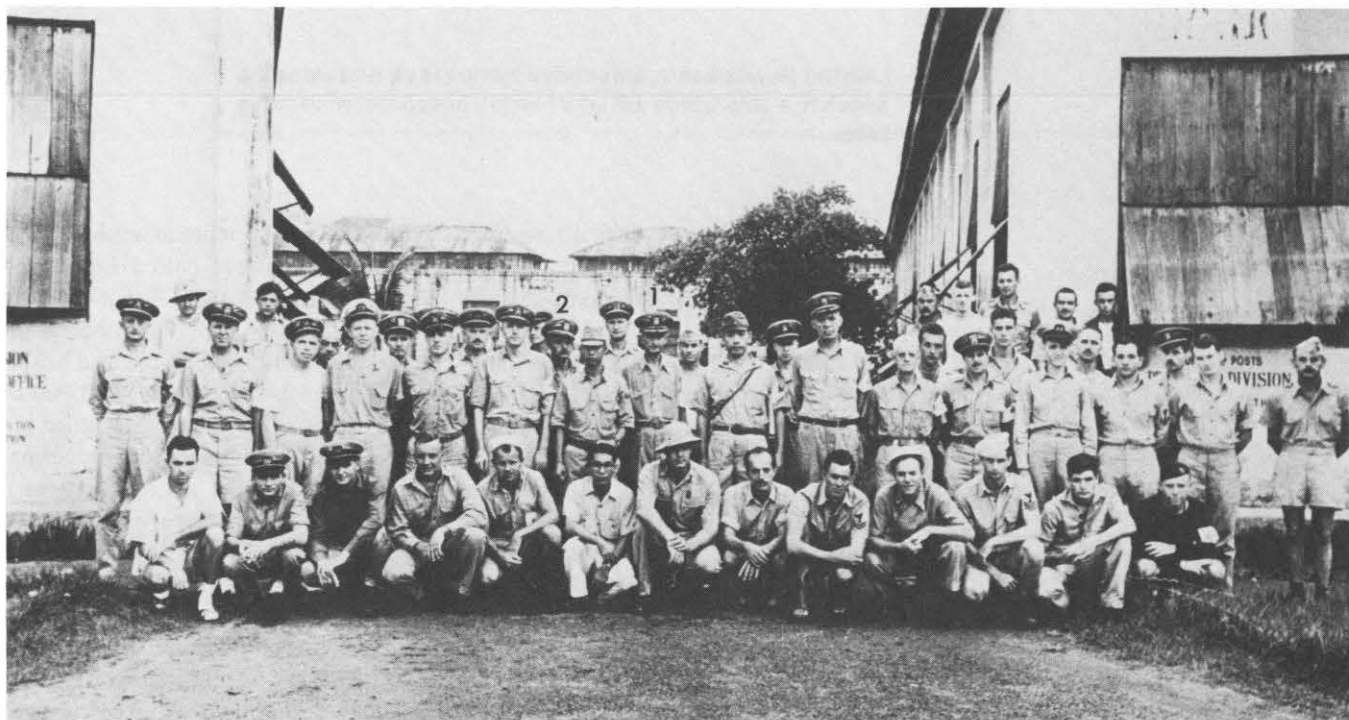
Lion One, under the command of

Navy medicine's presence was vital aboard other sea vessels including submarines as demonstrated in the Makin Island expedition of 17 Aug in which 220 marines, under the leadership of LCOL Evans F. Carlson, raided enemy shore installations to distract the Japanese from American landings in the Solomons. After nearly 2 days of fierce fighting, the raid proved to be successful, for a task force of Japanese cruisers, transports, and destroyers en route to Guadalcanal changed course for the Gilbert Islands.

The Makin Island raid, however, was costly and Marine casualties totaled 51, of whom 18 had been killed, 14 were wounded, 12 were missing, and 7 had "drowned trying to buck the surf."(7) They boarded the submarines *Nautilus* and *Argonaut* and headed for Pearl Harbor. There were seven wounded aboard each submarine. CAPT John M. Haines commented about the Navy medical service, "... The operations by the surgeons [LTs William B. McCracken and Stephen L. Stigler] were carried

A marine wounded in LCOL Evans F. Carlson's raid on Makin Island in the Gilberts is removed from either USS *Nautilus* or USS *Argonaut* at Pearl Harbor.





This photograph of American POW's at Bilibid was taken in August for propaganda. CAPT L.B. Sartin, MC,(1) was the prison hospital's first commanding officer and CDR T.H. Hayes, MC,(2) succeeded him. Many of the men in this picture, including Dr. Hayes, died on prison ships.

CAPT J.E. Boak, was commissioned at Moffett Field Naval Air Station, CA, on 15 July 1942. CAPT Lucius W. Johnson, MC, was in charge of its medical department. The medical unit was organized much like a medical division afloat with department heads having latitude in planning and all plans being coordinated by the division commander. Navy reservists comprised the majority of the unit's officers.

Lion One medical personnel performed diverse tasks including sick call, transferring patients to the Mare Island Hospital, providing dental services, doing physical and mental examinations, and lecturing Lion One personnel about their mission and related policies. Because the medical unit would be divided into possibly three hospitals and several dispensaries once overseas, medical personnel received special training in groups on the rapid handling of shock, transfusions, and burns. All hands were also trained in first aid and many took courses in gas warfare, small arms, and

antiaircraft. Medical and dental officers had to qualify as first aid instructors and hospital corpsmen received training in several other areas such as operating room techniques and anesthesiology.

Cub One was also organized at NAS Moffett Field, CA, on 15 July. Its hospital section was staffed with 27 medical officers, 3 Hospital Corps warrant officers, 200 enlisted personnel, and equipment and supplies for establishing a 200-bed hospital facility. On 21 July, Cub One sailed for Espiritu Santo, New Hebrides, and immediately began landing operations upon arrival on 11 Aug. Within the first 48 hours, the majority of the hospital supplies had been brought ashore. Personnel began erecting living quarters and shelter for the landed gear and subsequently CAPT Joel J. White, MC, commanding officer, selected a site for the hospital. The site, gently sloping terrain about 20 feet above sea level, oval in shape and approximately 100 yards in depth by 400 yards in length, was considered most suitable

for establishing a sick bay because it was near the center of operations and could be well camouflaged from air and sea.

To meet the medical needs of those in intense combat to the north of the hospital camp, CAPT White, 6 medical officers, 1 warrant officer, and 40 corpsmen transferred to these areas. At 6-week intervals members of this group rotated with those at the hospital to reduce hardships. On the 15th day ashore, 35 men, many seriously burned, were brought to the hospital from a surface vessel. They were housed in the only erected quonset hut and a hospital tent. The hospital's first fatality was among this group, a comatose man suffering from third degree burns and blast injuries. The hospital compound expanded as the need for beds grew.

Bilibid

Navy medical personnel at Bilibid Prison in the Philippines were hard at work operating the hospital they had established there in June 1942. On 2

July, 1,277 prisoners captured at Corregidor arrived at Bilibid.(9) Hospital personnel immediately began classifying them as not sick at all, light sick, and heavy sick. Two hundred and eighty members of this Corregidor group were classified as patients. This brought the patient census to about 1,040. Navy medical personnel who came over with the group from Corregidor assisted the hospital staff. Subsequently, the majority of them were added to the hospital roll raising its staff total to about 200. The Corregidor Navy medical group brought with them many critically needed supplies and medicines including a dental outfit, operating table, and X-ray machine.

Army and Filipino nurses came from Corregidor as well. The Army nurses had been sent to Santo Tomas internment camp where the Navy nurses captured at Canacao were interned. The Filipino nurses remained at Bilibid, but like many other Filipino prisoners, they were soon released home. A few days after the group's arrival, the Japanese transferred about 500 to other internment camps, most of them going to the one in Cabanatuan about 60 miles north of Manila.

All American internees suffered from malnutrition and nearly all had one or more maladies, such as dysentery, beri-beri, malaria, gunshot wounds, bone fractures, contusions, tuberculosis, scurvy, dengue, xerophthalmia, jaundice, and hypoproteinemias (10) syndrome with varying levels of bodily damage due to protein deficiency in diet.

Periodically members of work details came to Bilibid. They suffered from malnutrition, dysentery, malaria, and other diseases. They told stories about the adverse living conditions and brutal treatment that prevailed in the work camps.

Although Navy medical personnel at Bilibid were not usually assigned to work details, they were not exempt from brutal treatment by their captors. According to LCDR Hjalmar A. Erickson, MC, some common Japa-



A prewar postcard view of Bilibid.

nese torture methods were the water and hot plate treatments. When a prisoner received the water treatment, Japanese guards would ram a rubber tube down his throat as he lay on the ground. Then when the water came out through the pores, the guards would remove the tube and jump up and down on the man's bare stomach.(11) A prisoner receiving the hot plate treatment was forced to strip and stand on a wet metal plate. Then Japanese soldiers would prick his flesh with electrically-charged wires.(12)

Medical personnel made several improvements at the Bilibid hospital. They fixed roofs, plumbing fixtures and electric light outlets, constructed open latrines, and set up a galley, operating room, X-ray dark room, and a special diet kitchen to prepare any extra food (13) for gravely ill patients.

Nurses at Santo Tomas

Army nurses captured at Corregidor joined the 11 Navy nurses, who had been stationed at U.S. Naval Hospital Canacao, at the University of Santo Tomas. The university, consisting of about 50 acres and several buildings, was one of three civilian internment camps set up by the Japa-

nese on Luzon. It was the largest of the camps and served as a model for a camp later set up at Los Banos. In addition to the nurses, there were about 4,500 internees. The Army nurses were housed in the Santa Catalina dormitory near the hospital and assumed administration of the hospital.

The Navy nurses had been interned there since March. When they arrived, they found a little hospital housed in what had been a mechanical engineering building. Lacking beds, patients brought their own. Internees worked daily for 2-4 hours and then stood in line for food. Nurse Dorothy Still Danner recalled how some internees were fortunate to have food and other items tossed over the fence to them. "There were those who had servants and the servants would bring them cooked food in these little containers . . . we'd see everything from mattresses to bedsteads to the whole bit going over the fence."(14)

Santo Tomas was a unique camp in that an executive committee made up of internees presided over the internal affairs of the camp. This internal governing body consisted of five or six members and a chairman. In addition, the camp's commandant and guards



The 11 Navy nurses who had been stationed at USNH Canacao, P.I., were interned at the University of Santo Tomas, one of the three civilian internment camps set up by the Japanese.

were Japanese businessmen instead of members of the Japanese Army. "They [the guards] were not like the guards in the POW camps. In fact, they would be out there playing with the kids. They seem to have a liking for children. They would play ball with them . . . some of them would take the youngsters out and buy them candies and ice cream . . ." said nurse Danner. (15)

Elsewhere

As activity in the South Pacific escalated, so did Navy medical activity elsewhere. Hospitals along the west coast were taking additional measures to ensure that there would be adequate space and care available to the many wounded expected to be brought state-side as the Guadalcanal campaign continued. To ease the load on west coast hospitals, U.S. Naval Hospital Oakland, CA, was commissioned on 1 July. In addition, Mobile Hospital No. 5 had been commissioned in May and was transferred to Noumea, New Caledonia, on 26 Aug. Mobile Hospitals No. 7 and No. 8 were commissioned on 9 July and 21 Aug, respectively, and personnel were undergoing final training and preparations for duty overseas in the Pacific theater.

Other facilities were commissioned elsewhere. Hospitals were established in Balboa, C.Z., and Seattle, WA, and a 325-bed dispensary was commissioned at the U.S. Naval Base, Roseneath, Scotland, on 24 Aug.

References

1. Naval History Division, Office of the Chief of Naval Operations, Navy Department. *United States Naval Chronology, World War II*, p 30.
2. Karig W, Purdon E. *Battle Report: Pacific War, Middle Phase*, p 84.
3. *Ibid.*, p 92.
4. *Ibid.*, p 92.
5. *The History of the Medical Department of the U.S. Navy in World War II: A Narrative and Pictorial Volume*; 1:73.
6. *USS Solace*: chronological chart of ship activities, p 2.
7. Karig W, Purdon E. *Battle Report: Pacific War, Middle Phase*, p 125.
8. *Ibid.*, p 126.
9. Patton WK. Bilibid account of captivity at Manila, PI, 1942-1945, p 40.
10. Smith SW. *Prisoner of the Emperor*, p 48.
11. Erickson HA. Experiences of LCDR Hjalmar A. Erickson, MC, USNR, p 4.
12. *Ibid.*, p 4.
13. At some point in their stay at Bilibid, medical personnel were paid in printed Japanese pesos. Thus, they were permitted to buy additional food from merchantmen. Smith SW. *Prisoner of the Emperor*, p 56.
14. Danner DS. Wartime reminiscences of LCDR Dorothy Still Danner, NC, USN.
15. *Ibid.*

Bibliography

- Cooper P. *Navy Nurse*. New York: McGraw Hill Book Co Inc; 1946.
- Daly HC; Howard DB, ed. *The USS Solace Was There*. Balboa Publishing; 1991.
- Danner DS. Wartime reminiscences of LCDR Dorothy Still Danner, NC, USN. BUMED Archives.
- Davis RG. Journal 8 Dec 1941 to 7 Sept 1945. BUMED Archives.
- History of U.S. Naval Hospitals, vol II: all remaining hospitals including Special Augmented Hospital No. 6 Okinawa. BUMED Archives.
- Karig W, Purdon E. *Battle Report: Pacific War: Middle Phase*. New York: Rinehart & Co Inc; 1947.
- Kentner RW. Journal. BUMED Archives.
- Oman CM. *Doctors Aweigh*. New York: Doubleday Doran & Co; 1943.
- Patton WK. Bilibid account of captivity at Manila, PI, 1942-1945. Journal. BUMED Archives.
- Sartin LB. Journal. BUMED Archives.
- Smith SW; Smith DA, ed. *Prisoner of the Emperor*. University Press of Colorado; 1991.
- Star and Herald Panama*. U.S. Navy doctor who survived 37 soul-shaking months in Japan prisoner of war camp relates experiences. 10 June 1945. BUMED Archives.
- The History of the Medical Department of the U.S. Navy in World War II: A Compilation of the Killed, Wounded, and Decorated Personnel*. Washington, DC: Government Printing Office; 1953.
- The History of the Medical Department of the U.S. Navy in World War II: A Narrative and Pictorial Volume*. Washington, DC: Government Printing Office; 1953.
- Undated report on U.S. Naval Base Hospital No. 6. BUMED Archives.
- Undated report on Mobile Hospital No. 3. BUMED Archives.
- United States Naval Chronology, World War II*. Prepared in the Naval History Division, Office of the Chief of Naval Operations, Navy Department. Washington, DC: Government Printing Office; 1955.
- United States Submarine Losses, World War II*. Reissued and fully indexed by the Naval History Division, Office of the Chief of Naval Operations, Navy Department. Washington, DC: Government Printing Office; 1963.
- U.S. Naval Base Hospital No. 2, Navy 156, Fleet Post Office, San Francisco, CA. Annual Sanitary Report 1943. BUMED Archives.
- USS Solace*: chronological chart of ship activities. BUMED Archives. □

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The Personality Disorder Patient in the Military Mental Health Clinic

CDR Stanley W. Raczek, MC, USN
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Everyday clinical practice indicates that a significant number of service men and women referred for evaluation to military mental health clinics exhibit varying degrees of character pathology. Individuals with personality disorders have significant difficulty adjusting to military life. Their limited coping skills are overwhelmed by the demanding and stressful environment leading to anxiety, dysphoria, acting-out, and self-destructive behaviors. Individuals with more severe personality disorders do not usually respond to the leadership, discipline, counseling, and therapeutic measures available in a military setting. Their prognosis for adjustment is extremely poor. The longer they remain in the military, the greater the drain on their commands' administrative, financial, medical, and legal resources.

Administrative separation from the service seems to be the best solution for those individuals with severe personality disorders and serves the best interests of their commands as well. Therefore, early detection and accu-

rate assessment of the severity of pathological personality traits are the most important steps in reducing the personal, financial, and military costs associated with the management of individuals with severe personality disorders.

Despite the importance of this issue, there is a lack of systematic research on personality disorders in the military. In this study, the personality profiles of young service men and women referred for psychiatric evaluation were assessed using a structured diagnostic interview, and the relationships between pathological personality traits and some specific behavioral problems were analyzed.

Subjects and Methods

Fifty young enlisted U.S. service men and women who were referred for psychiatric evaluation to the Mental Health Clinic at U.S. Naval Hospital, Naples, Italy, volunteered to participate and were randomly assigned as subjects for the study. In order to achieve a more clinically homogeneous sample and avoid the influence of

"state" factors on the assessment of personality, those patients with major psychiatric disorders (including psychotic, affective, and organic disorders) were excluded from the study.⁽¹⁻³⁾ Most of the subjects were young (mean age 21.8), single, Caucasian males. Forty-eight were Navy personnel, two were marines. Sixty-six percent had high school education (N=33), 14 percent did not finish high school (N=7), and 20 percent had some college education (N=10) (Table 1).

Each subject, after giving his or her informed consent, completed a self-administered research questionnaire, which included questions regarding personal, family, and marital issues; military service; current emotional problems; alcohol and drug abuse; and self-destructive behavior. Additional data were obtained from health and service records as well as other available sources. The personality profile of each subject was evaluated using the Personality Disorder Examination (PDE), a structured diagnostic interview developed by Loranger et al.⁽⁴⁾

The PDE is based on the DSM-

TABLE 1

DEMOGRAPHIC CHARACTERISTICS OF SUBJECTS
(N=50)

VARIABLES	n	%
SEX		
MALE	46	92
FEMALE	4	8
ETHNIC		
WHITE	39	78
BLACK	10	20
OTHER	1	2
MARITAL STATUS		
SINGLE	37	74
MARRIED	8	16
SEPARATED/DIVORCED	5	10
EDUCATION		
<12 YRS	10	20
=12 YRS	33	66
>12 YRS	7	14
SERVICE		
NAVY	48	96
MARINE CORPS	2	4
AGE (MEAN)		21.8

III-R diagnostic criteria and covers all 13 personality disorders. Based on the results from the PDE, subjects were divided into two groups. The first group consisted of 34 subjects who met the criteria for at least one personality disorder ("D" group). The second group consisted of 16 subjects who did not meet the full criteria for any personality disorder, although they may have endorsed some personality disorder traits ("T" group). Behavioral problems such as disciplinary difficulties, alcohol abuse and suicidal behavior, and personality profiles were compared for the two groups.

Results

Demographic Characteristics. The comparison of demographic characteristics

of the two groups revealed that the subjects with personality disorders were more often unmarried and black than the subjects with no personality disorders, but these differences were not statistically significant. No other demographic variables discriminated between the two groups (Table 2).

Family Background. Although the rate of family disruption (separation, divorce, death, multiple parents, foster care, etc.) was high in both groups, the subjects with personality disorders more often than subjects without character pathology reported the presence of alcoholism, psychiatric disorders, and violence in their families of origin, as well as histories of physical and/or sexual abuse in childhood (Table 3).

Personality Profile. The inspection of personality profiles showed that 24 of the 34 subjects with character pathology (70 percent) met DSM-III-R criteria for more than one personality disorder. There was a mean of three personality disorders per subject in the "D" group. The most common personality disorders were: borderline, 68 percent (N=23); avoidant, 47 percent (N=16); and dependent, 38 percent (N=13) (Table 4).

The most common *specific* personality traits were: chronic feelings of emptiness or boredom, 74 percent (N=25) and affective instability, 65 percent (N=22) (both borderline); inability to tolerate breaking up of a close relationship, 53 percent (N=18) (dependent); and sensitivity to criticism or disapproval, 47 percent (N=16) (avoidant) (Table 5).

Behavioral Characteristics. *Service Adjustment:* Difficulty adjusting to military life was reported by 85 percent of subjects with personality disorders (N=29), while only 50 percent of subjects without personality disorders reported such difficulties (N=18). Disciplinary problems were reported by 35 percent of subjects with personality disorders (N=12) vs. 25 percent of subjects without character pathology (N=4) (Table 6).

Depressive Symptomatology: The subjects with personality disorders endorsed much more severe depressive symptomatology than the subjects without personality disorders. They more often complained of depressed (71 percent vs. 37 percent) and hopeless (41 percent vs. 25 percent) feelings and more often admitted to suicidal behavior in the past (24 percent vs. 19 percent). They also reported more frequent suicidal behavior in their families (26 percent vs. 10 percent) (Table 7).

Alcohol Abuse: The subjects with personality disorders reported heavier alcohol use, as evidenced by more frequent drinking and higher number of drinks per sitting, and as a result required treatment for alcohol more often than subjects without personality disorders (Table 8).

Discussion

The results of this study clearly show a high rate of severe character pathology among young service men and women referred for evaluation to a military mental health clinic. In this sample, 68 percent of patients referred for evaluation of various emotional and behavioral problems met the DSM-III-R diagnostic criteria for at least one personality disorder (N=34). The majority of those, 70 percent (24 of 34), demonstrated more than one personality disorder.

Individuals with pathological personality traits such as emotional instability, inability to function independently, and sensitivity to rejection respond to the stressful and demanding military environment or to interpersonal crises with dysphoria, anxiety, feelings of hopelessness and helplessness, and eventually suicidal behavior. In this sample, a significant number of subjects reported marked dysphoria (71 percent), hopeless feelings (41 percent), and recent suicidal behavior (35 percent).

Suicide is the third most common cause of death in the military.(5-7) Several recent studies (8-12) have suggested a relationship between character pathology and suicidal behavior. Previous studies (11,12) have found that the most "lethal" combination of traits were chronic feelings of emptiness or boredom (borderline) accompanied by a sensitivity to rejection (avoidant), two common personality traits among our subjects.

Another common problem related to character pathology is alcohol abuse. Although the level of alcohol abuse among all subjects in our sample was high, those in the character disorder group reported much heavier drinking. Alcohol abuse among this group may be the result of an attempt to cope with a stressful military environment. Several subjects in the personality disorder group reported a significant increase in their consumption of alcohol after enlistment and cited their need to "relax" and "forget problems" as reasons for drinking. This alcohol abuse frequently led to

TABLE 2

DEMOGRAPHIC CHARACTERISTICS OF SUBJECTS IN TWO GROUPS

VARIABLES	"T" GROUP N=16		"D" GROUP N=34	
	n	%	n	%
SEX				
MALE	15	94	31	91
FEMALE	1	6	3	9
ETHNIC				
WHITE	14	87.5	25	74
BLACK	2	12.5	8	23
OTHER	0	0	1	3
MARITAL STATUS				
SINGLE	11	69	28	82
MARRIED	5	31	3	9
SEPARATED/DIVORCED	0	0.0	3	9
EDUCATION				
<12 YRS	3	19	6	18
=12 YRS	10	69	24	70
>12 YRS	2	12	4	12
AGE (MEAN)		22.0		22.0

TABLE 3

FAMILY BACKGROUND

VARIABLES	"T" GROUP N=16		"D" GROUP N=34	
	n	%	n	%
DISRUPTED FAMILY	12	75	22	65
PHYSICAL AND/OR SEXUAL ABUSE	4	25	11	32
PARENT'S VIOLENCE	4	25	13	38
ALCOHOLISM IN THE FAMILY	3	19	12	35
PSYCHIATRIC DISORDERS IN THE FAMILY	7	44	20	59

TABLE 4

THE MOST COMMON
PERSONALITY DISORDERS IN
A SAMPLE (N=34)

PERSONALITY	NUMBER	%
BORDERLINE	23	68
AVOIDANT	16	47
DEPENDENT	13	38

TABLE 5

THE MOST COMMON SPECIFIC
PERSONALITY TRAITS IN SAMPLE
(N=34)

SPECIFIC PERSONALITY TRAITS	NUMBER	%
CHRONIC FEELING OF EMPTINESS OR BOREDOM (BORDERLINE)	25	74
EMOTIONAL INSTABILITY (BORDERLINE)	22	65
SENSITIVITY TO CRITICISM OR DISAPPROVAL (AVOIDANT)	16	47
DEVASTATED WHEN CLOSE RELATIONSHIPS END (DEPENDENT)	18	53

TABLE 6

MILITARY SERVICE

VARIABLES	"T" GROUP N=16		"D" GROUP N=34	
	n	%	n	%
AGE OF ENLISTMENT	19		19	
LENGTH OF SERVICE	3YRS, 3MTHS		1YR, 11MTHS	
DIFFICULTY ADJUSTING TO MILITARY LIFE	8	50	29	85
DISCIPLINARY PROBLEMS	4	25	12	35
DISSATISFACTION WITH THE SERVICE	10	63	24	71

multiple disciplinary problems which exacerbated feelings of hopelessness and failure.

Since severe character pathology frequently combined with alcohol abuse precludes a good adjustment to the military, individuals with severe personality disorders should be expeditiously separated from the service. Derrer and Gelles (13) have recommended several practical steps to improve the process of "unloading the walking wounded." Our findings support their recommendations for a more stringent screening standard during recruitment. A screening procedure which would specifically focus on family history of alcoholism and psychiatric disorders, and history of childhood sexual and physical abuse would likely provide powerful predictors of adjustment to military life.

The development of a simple, self-administered screening instrument for personality disorders could greatly assist recruiters and medical personnel in the selection process. For those individuals already in the service, early detection and assessment of the severity of character pathology should be a crucial task for military mental health professionals. Among the several recently introduced instruments designed to evaluate personality characteristics, (4,14,15) the PDE developed by Loranger and his coworkers (4) seems to us to be the best suited to military populations.

Early detection of character pathology and expeditious separation from the service would prevent the further deterioration of individuals with personality disorders which leads to the depletion of scarce financial and manpower resources and frequently to tragic loss of life.

In spite of the limited size of this sample and its preselected nature, the results of this study appear to support the following final conclusions:

- that significant numbers of service men and women referred for evaluation to military mental health clinics exhibit severe character pathology,
- that among several environmental

TABLE 7

DEPRESSIVE SYMPTOMATOLOGY

VARIABLES	"T" GROUP N=16		"D" GROUP N=34	
	n	%	n	%
DEPRESSED FEELINGS	6	37	24	71
HOPELESS FEELINGS	4	25	14	41
RECENT SUICIDAL BEHAVIOR	4	25	12	35
SUICIDAL BEHAVIOR IN THE PAST	3	19	10	29
SUICIDAL BEHAVIOR IN THE FAMILY	2	12	9	26

TABLE 8

ALCOHOL ABUSE

VARIABLES	"T" GROUP N=16		"D" GROUP N=34	
	n	%	n	%
FREQUENT DRINKING	1	6	16	47
MORE THAN 3 DRINKS PER SITTING	8	50	24	71
MEDICAL COMPLICATIONS	6	37.5	12	35
OTHER PROBLEMS RELATED TO DRINKING	7	44	17	50
ALCOHOL TREATMENT	1	6	7	21

factors, a history of physical and/or sexual abuse in childhood and a family history of alcoholism and psychiatric disorders are the most powerful predictors for the development of severe personality disorders,

- that alcohol abuse frequently complicates the clinical picture of per-

sonality disorder in young military subjects and contributes to the severity of their psychopathology, and

- that the early detection of severe character disorder could enable military authorities to expeditiously discharge vulnerable individuals and reduce the suicide rate in the military.

References

1. Hirschfeld RM, Klerman GL, Clayton PJ, et al. Assessing personality: effect of the depressive state on trait measurement. *Am J Psychiatry*. 1983;140:695-699.
2. Reich J, Noyes R, Coryell W, O'Gorman TW. The effect of state anxiety on personality measurement. *Am J Psychiatry*. 1986;143:760-763.
3. Reich J, Noyes R, Hirschfeld RM, et al. State and personality in depressed and panic patients. *Am J Psychiatry*. 1987;144:181-183.
4. Loranger AW. *Personality Disorder Examination (PDE) Manual*. Yonkers, NY: DV Communications; 1988.
5. Rothberg JM, Ursano RJ, Hollo-way HC. Suicide in the United States military. *Psychiatr Ann*. 1987;17:545-548.
6. Dennett DE, Howard NS. Suicide in the naval service—part I: demographic. *Nav Med*. 1988;79(5):24-28.
7. Dennett DE. Suicide in the naval service—part II: incidence and rate. *Nav Med*. 1988;79(6):21-24.
8. Frances A, Fryer M, Clarkin J. Personality and suicide. *Ann NY Acad Sci*. 1986;487:281-293.
9. Frances A, Blumenthal SJ. Personality disorders and characteristics in youth suicide. Presented at the National Conference on Youth Suicide; May 1986; Bethesda, MD.
10. Blumenthal SJ. Suicide: a guide to risk factors, assessment and treatment of suicidal patients. *Med Clin North Am*. 1988;72:937-971.
11. Raczek SW, True PK, Friend CR. Suicidal behavior and personality traits. *J Pers Dis*. 1989;3(4):345-351.
12. Raczek SW: Personality disorders and suicidal behavior in the U.S. Navy serviceman. Presented at the 143rd Annual Meeting of the American Psychiatric Association; May 12-17, 1990; New York.
13. Derrer D, Gelles M. Unloading the walking wounded. *Proc Naval Inst*. 1989; 71-75.
14. Pfohl B, Stangl D, Zimmerman M. The structured interview for DSM-III personality disorders (SID-P). Iowa City: University of Iowa Hospitals and Clinics; 1982.
15. Spitzer RC, Williams JB, et al. Structured clinical interview for DSM personality disorders (SCID-II). New York: State Psychiatric Institute, New York; 1989. □

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Suicide Prevention:

A Case Study Analysis

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Medical personnel are on the "front line" when their help is sought by a person faced with an overwhelming problem. What is the most effective way to respond to the person who appears suicidal? A clear understanding of suicide is essential in order to provide appropriate assistance. Using a case study approach, this article reviews the following aspects of suicide: incidence, myths, warning signs, questioning techniques, indicators of high risk, and the impact of suicide on survivors.

Incidence of Suicide

Suicide is ranked as the eighth leading cause of death in the United States. In 1989 alone, there were approximately 30,000 reported cases of death by suicide. A hidden yet significant factor is that the number of suicide attempts is 8-15 times greater than the number of completed suicides. Thus a conservative estimate of attempted suicides would approach a minimum of 300,000 people. Suicide is the third leading cause of death among 15- to 24-year-olds and is surpassed only by accidents and homicide. This age group represents the largest source of manpower for the military. Death by suicide is the third leading cause of death in the military. Psychiatric disorders, which are often predictors of suicidal behavior, are the second leading cause of hospital admission among Navy personnel. Finally, there were 318 reported cases of suicide in the Navy between 1986 and 1990.

Case Study

A 20-year-old single male, SA/N/AD, with 14 months military service was referred to psychiatry after ingestion of 20 cold tablets in a suicide gesture. He reported a 3-month period of increased stress, difficulty getting along with shipmates, recurring thoughts of suicide, and profound feelings of despair. He described his childhood as chronically unhappy due to a learning disability that had only worsened with time aboard ship. He felt ridiculed by his shipmates and became more socially isolated. He

received captain's mast for having fallen asleep on watch and was subsequently restricted to the ship. He later reported increased sleeping with disturbing dreams, weight loss of 10 pounds in 1 month, difficulty concentrating, general disinterest in life, fatigue, feelings of helplessness, and persistent thoughts of death. He reported drinking a six-pack of beer nightly. He described his mood as increasingly irritable and "felt like I was a nobody." He had one prior suicide attempt at 18, when he jumped from a moving motor vehicle. He had recently thought of cutting his wrist and jumping overboard. Instead, he decided to overdose on cold pills. Ambivalent about his action, he told a friend who sought help from the ship's corpsman.

This case study exemplifies many of the common features of people who attempt suicide. The person was unable to see his life predicament as temporary and lost his perspective. His low self-esteem led to his belief that he was worthless. Interpersonal difficulties contributed to isolating behaviors which in turn prevented help from available support systems (family and friends). His dislike for the Navy and shipboard life added to his sense of isolation and aloneness. Legal problems intensified his feelings of despair, helplessness, and hopelessness and resulted in yet another attempt of suicide.

Myths

There are many misconceptions that may interfere with recognizing someone at risk for suicide and taking preventive action. Examples of such myths and corresponding facts are:

Myth: *People who talk about suicide won't attempt suicide.*

Fact: Research reveals that more than half of suicide victims had "given a hint of their suicide to someone at some time, and one-third made an obvious suicidal threat."

Myth: *Suicide is a crazy act only done by insane people.*

Fact: The decision to kill oneself may be based on rational thinking.

Myth: *Talking about suicide may encourage a person to try it.*

Fact: Most people who are suicidal are grateful to discuss the issue. Avoiding talking about suicide may reinforce to the depressed person that no one truly cares.

Myth: *People who attempt suicide just want attention. They don't really intend to kill themselves.*

Fact: A suicide gesture or attempt is often a "dress rehearsal" for the real event. Unless the person's actions or thoughts are actively addressed, the consequences could be fatal.

Myth: *Once a person decides to commit suicide, nothing can stop him or her.*

Fact: Most people who are considering suicide are ambivalent about dying.

Warning Signs

What signs might indicate that someone is contemplating suicide? Most often, people who attempt or complete suicide leave a long and "muddy trail." Rarely is there a clear cause and effect, but several warning signs may indicate someone is at risk for committing suicide. This includes:

- Direct or subtle expressions of a desire to die, i.e., "I'm finishing up a lot of projects, I won't need these things anymore; You go ahead without me."
- Making final preparations, i.e., making a will.
- Social withdrawal.
- Depression, which may develop from a perception of personal failure, a sense of inadequacy, loss of status or occupation, disfiguring or terminal illness, loss of family or significant others through death, separation, or divorce (see Table 1).

Substance Abuse

How does a history of alcohol and/or drug use put a person at higher risk for suicide? Coben and Palinkas of the Naval Health Research Center, San Diego, CA, believe that "Alcohol may be used as an emotional painkiller. People may rely on the effects of alcohol to relieve feelings of depression, anxiety, hostility, and inferiority, all of which can reflect underlying patterns of insecurity, rage, and guilt which often go unrecognized." The use of alcohol and/or drugs may result in a decrease in a person's impulse control and exacerbate or precipitate a depression. Also, the combination of alcohol with other drugs may be fatal.

Case Study

A 24-year-old married male, LTJG/N/AD, Naval Academy graduate, with 2½ years active duty service, was referred to the Psychiatry Service after having attempted suicide in which he cut his wrist, both longitudinally and transversely. His performance under his first commanding

officer had been excellent. When a new commanding officer reported aboard, the individual's collateral duties significantly increased. Despite working extra hours, he felt the commanding officer was extremely critical of his performance. On the day of admission, he was disciplined for a safety accident involving one of his subordinates. He was informed that he was "in hack" and was restricted to the ship. While filling out the accident report, he became increasingly despondent and decided to "end it all." He believed that his wife would receive his insurance money after his death. He then cut his wrist but was found by a warrant officer and taken to the medical department.

Three weeks before this incident, the member had an argument with his wife. He then attempted to asphyxiate himself in his garage. His wife found him, turned the car off, and took the keys away from him. They did not discuss what had occurred and he did not seek psychiatric intervention. Upon admission to the psychiatric ward, he acknowledged being overwhelmed with stress. He was unable to concentrate and admitted interpersonal difficulties with his family and shipmates. Additionally, he had multiple financial problems. His symptoms of depression

TABLE 1
Symptoms of Depression

1. Changes in appetite leading to a significant increase or decrease in weight.
2. Sleep problems including hypersomnia, difficulty falling asleep, frequent awakening, or early morning awakening.
3. Decreased energy.
4. Decline in personal appearance.
5. Feelings of worthlessness or guilt.
6. Decline in work performance.
7. Difficulty concentrating.
8. Anhedonia—loss of interest in things that are normally pleasurable, such as hobbies or sports.
9. Absence of future plans.
10. Recurrent thoughts of death or suicide. This may become a major theme in the person's conversations.
11. Alcohol or substance abuse.

included sleep disturbance with initial insomnia, frequent awakening, and increased appetite with weight gain.

This case study illustrates the significance of an interpersonal conflict as a contributory factor to a suicide attempt. Suicide can be described as either one of two wishes: the wish to die or the wish to kill (punish oneself or revenge). The member described a dissatisfaction in his relationships with others (family, shipmates, Navy). Criticism by his commanding officer resulted in the member feeling dejected. His past history or overachievement was based on an attempt to compensate for feelings of low self-esteem. His rigidity and difficulty coping with perceived failures (loss of status and recognition) resulted in his impulsive suicide attempts.

What then are some questions you need to ask to determine if an individual is considering suicide? (see Table 2)

Indicators of High Risk

Mental health professionals have found that a personal or family history often reveals high-risk factors for suicide. Determination of appropriate treatment during a suicide evaluation requires eliciting the person's feelings and thoughts while placing them in the context of demographic and social risk factors. The risk increases if there is a family history of a suicide death, depression, or manic-depressive illness (bipolar disorder). Previous suicide attempts are the best predictor of high risk for suicide. Research indicates that approximately 40 percent of people who commit suicide have made a prior attempt. The risk of death by suicide is greater if prior attempts involved a high degree of lethality such as by hanging, gunshot wounds, or jumping from a high place.

Impact on Survivors

A suicide attempt or a completed suicide has a significant adverse impact on the survivors. Families, friends,

and coworkers are faced with their own doubts, anger, and guilt in addition to their loss. The suicide event may magnify for people their own stress, both occupational and personal. Also, the suicide event may be perceived by coworkers as evidence that the military (or "the system") does not take care of its own people.

Summary

What should you do if you feel someone is at risk for suicide? First, ask the person. Don't fall into the old trap "If I ask, I might put the idea into their head." Don't ignore or minimize the answer. If you make an error, err on the side of caution. If the person is at risk of suicide or admits to suicidal thoughts, do not leave him or her alone. Either you or another responsible person should remain with the individual until you can arrange for evaluation by a medical officer who will determine the need for further evaluation by a psychiatrist or psychologist. People at risk for suicide require that you be highly directive and make decisions for them.

Statistically, the military's largest source of manpower is in an age group that has a significant risk for suicide. Though often overlooked, most people considering suicide do give out signals. Therefore, preventive actions can and should be taken. Reducing the incidence of suicide requires that the warning signs be recognized and that you make a commitment to respond to those signs.

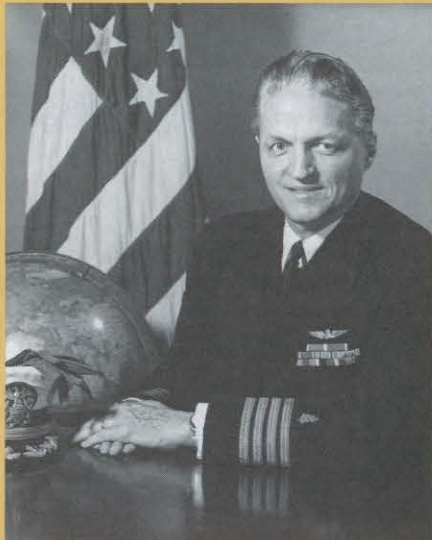
Bibliography

- Burr R, Palinkas L. *Mental Disorders Among U.S. Submarine Personnel: 1974-1979*. Technical Report No. 88-10. San Diego, CA: Naval Health Research Center; 1988.
- Coben P, Palinkas L. A case of suicide. *Milit Med*. 1988;153:66.
- Coben P. *Summary of suicide and destructive behavior in the U.S. Navy*. Unpublished manuscript; 1989.
- Grigg J. Imitative suicides in an active-duty military population. *Milit Med*. 1988;153:67-69.
- Grinspoon L, ed. Suicide—part I. *The Harvard Medical School Mental Health Newsletter*. 1986;2(8).
- Hackett T, Stern T. Suicide and other disruptive states. In: Hackett TP, Cassem NH, eds. *Massachusetts General Hospital Handbook of General Hospital Psychiatry*. Littleton, MA: PSG Publishing Co; 1987;268-296.
- "Military Death Certificate." Report of Casualty DOD Form 1300 (1986-1990).
- National Center for Health Statistics. *Monthly Vital Stat Rep*. 1989;38(9):13.
- Pfeffer C. Self-destructive behavior in children and adolescents. *Psychiatr Clin N Am*. 1985;8(2):215-226.
- Redman R. *United States Army Guide to the Prevention of Suicide and Self-Destructive Behavior*. Washington, DC: United States Army; 1985.
- Roy A. Suicide. In: Kaplan HI, Sadock BJ, eds. *Comprehensive Textbook of Psychiatry/V*. Baltimore, MD: Williams & Wilkins; 1989:1421. Ibid., pp 1414-1427.
- Stat Bull Metropol Life Insur Co*. 1986;67(2):16. □

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TABLE 2
Questions to Ask the Potentially Suicidal Person

1. Ask if he or she has had recent thoughts of suicide. If so, find out about their intentions.
2. Ask if they have a plan and determine its nature.
3. Find out if they have a readily available way to kill themselves, such as pills, razor blades, or a gun.
4. Determine what the person perceives are his or her available support systems.
5. Ask the individual to make an agreement to seek additional medical help if they feel suicidal.



In Memoriam

CAPT Ralph L. Christy, Jr., MC (Ret.), died 19 June 1992 at the Colorado State Veterans Home in Florence, CO. He was 78.

Dr. Christy was born in Kansas City, MO, on 2 Oct 1913. He received his A.B. degree in 1936 and a M.D. in 1940 from the University of Colorado. After internship and residency training in the Colorado General Hospital, he entered active duty as a Regular Navy medical officer in 1942. His first duty was aboard USS *Wasp*, until her sinking in the Guadalcanal campaign on 15 Sept 1942. During this attack, Dr. Christy was wounded and subsequently received the Purple Heart.

After attending the aviation medicine course in Pensacola, FL, and graduating with honors, he was designated a naval flight surgeon. In April 1943 Dr. Christy was assigned to an aircraft squadron which later participated in the Marshall Islands and other Pacific campaigns. In July 1944 he was assigned to the Commander, Fleet Air West Coast Training Unit and in November 1945 became officer in charge at the Human Centrifuge

and Acceleration Unit, School of Aviation Medicine, Pensacola, FL. His next duty was from July 1946 to May 1952 at the Bureau of Medicine and Surgery with additional duty at the Bureau of Aeronautics and Office of Naval Research.

Dr. Christy received the Legion of Merit for his exemplary work in the field of aviation medicine research. He was instrumental in the development and improvement of antiblackout equipment used by our pilots in World War II. He also played a crucial role in the development of human centrifuges. The centrifuges were used in experiments to solve the problems of supersonic flight and especially emergency escapes from supersonic aircraft.

His additional duties included senior medical officer aboard the aircraft carrier USS *Franklin D. Roosevelt* (CVB-42) from 1952 to 1954 and director of the Aviation Medicine Technical Division at the Bureau of Medicine and Surgery from 1954 to 1958. He also received formal training as a psychiatrist and completed 3 years of residency at the National Naval Medical Cen-

ter, Bethesda, MD. Dr. Christy soon rose to prominence in the field of psychiatry and became head of the Neuropsychiatry Branch at the Bureau of Medicine and Surgery in August 1961. He also served on the National Advisory Mental Health Council of the National Institutes of Health.

In addition to his Purple Heart and Legion of Merit, Dr. Christy also received the Navy Unit Commendation Ribbon and Pacific Theater Ribbon with six engagement stars.

Dr. Christy's professional affiliations and memberships included the American Medical Association, Aerospace Medical Association, Association of Military Surgeons of the United States, American Psychiatric Association, Washington Psychiatric Society, American College of Preventive Medicine, International Academy of Aviation and Space Medicine, and American Association for the Advancement of Science.

Naval Medical Research and Development Command Highlights

Bethesda, MD

• Miniature Ear-Canal Radar Detector

Physical constraints and mission scenarios do not allow conventional electronic warfare countermeasures equipment to be placed aboard the special boats used by Navy Special Warfare (NSW) personnel. Boat crews, however, have an urgent need to know if they are being scanned by hostile radar. Any practical solution would have to be rugged, lightweight, and not interfere with crew tasks. Researchers in the Bioengineering Division, Naval Aerospace Medical Research Laboratory, Pensacola, FL, may have found an answer to this problem in the electronic modification of a miniaturized hearing aid. With the microphone removed and a sensitive detector circuit installed, one prototype device showed sensitivity to a wide spectrum of modulated radiofrequency (RF) energy, from 2.0 MHz to 22 GHz, and could detect a weather radar at a distance of 7 nautical miles. A refined version of this device could enhance the operational capability of NSW forces; furthermore, a smaller, less sensitive version has potential application in the private sector as an early-warning device for workers who might be occupationally exposed to RF energy.

* * *

• Work/Rest Schedules and Subjective Readiness of Naval Aviators

Among the major concerns in naval aviation are the effects of sustained flight operations on aircrew readiness and performance. Around-the-clock flight operations can lead to fatigue, stress, reduced sleep, poor sleep quality, performance degradation, and even circadian desynchronization (a disruption in the normal daily variations in a variety of physiological functions and behaviors). Researchers in the Aviation Performance Division, Naval Aerospace Medical Research Laboratory, Pensacola, FL, participated in deployments on USS *America* (CV-66) to the Red Sea during Operations Desert Shield/Storm and more recently on USS

Saratoga (CV-60) during a fleet exercise. They collected data from a wide variety of aviators on work/rest schedules, subjective readiness to conduct an air strike, landing signal officer grades, and mission tasking. The *Saratoga* study included the collection of cognitive performance data pre- and post-flight from S-3 *Viking* and F/A-18 *Hornet* aviators. This information will enable an examination of the effects of mission tasking on work/rest cycles, performance, and subjective readiness. The unique study should prove of considerable value to airwing commanders, squadron skippers, flight surgeons, and others committed to preserving and maximizing aircrew performance.

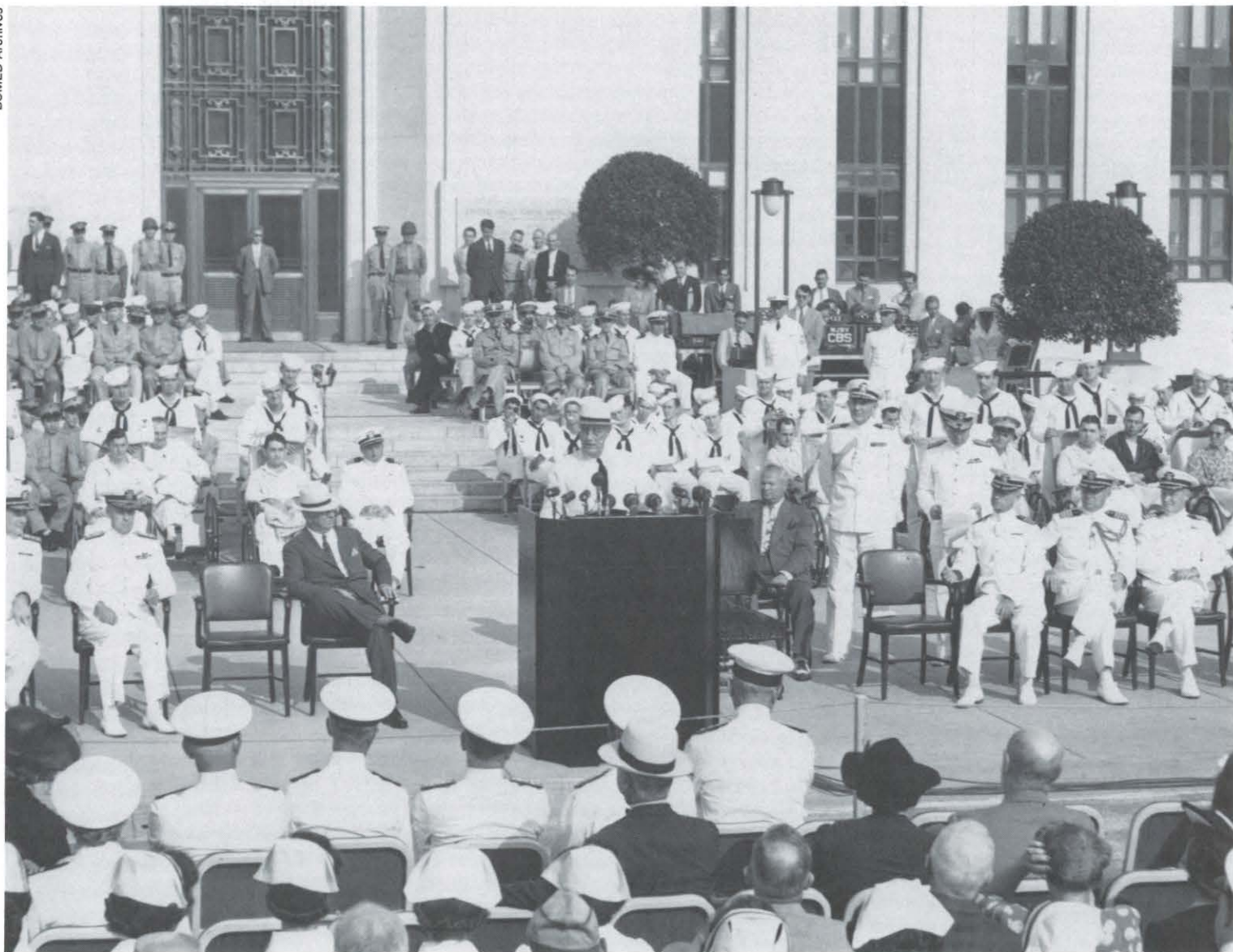
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• Noninvasive Methods of Screening for Dental Disease

Identifying personnel at risk of developing debilitating dental disease is a major goal of dental research in the Navy. Current studies are focusing on developing and testing noninvasive methods of screening for the most costly diseases that dentists treat—caries, cracked tooth syndrome, and periodontal disease. Several physical and biological approaches are being pursued by investigators at the Naval Dental Research Institute Detachment, Naval Dental School, Bethesda, MD. Future dental evaluation techniques will use ultrasonic imaging of the teeth for cracks and caries, and of the supporting periodontal structures for noninvasive measurement of disease progression. In addition, new dental approaches being studied include the evaluation of caries screening tests, the evaluation of periodontal disease indicators using gingival crevicular fluid, and identifying the mediators of chronic inflammatory disease related to polyclonal B-cell activators, T-cell superantigens, and periodontopathogens. Reducing the overall treatment needs through maximizing the dental health of military personnel is a clear objective for aiding operational readiness.

For additional information on these or other medical R&D projects, contact NMRDC Code 04 at Commercial (301) 295-0883 or DSN 295-0883.

Navy Medicine 1942



Addressing a nation at war, President Franklin D. Roosevelt dedicates the new National Naval Medical Center at Bethesda, MD, on 31 Aug 1942.

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